



A LANDSCAPE ARCHITECTS GUIDE TO NATURAL CLAY PAVING

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Wienerberger



WIENERBERGER; SINGLE FOCUS, THOUSANDS OF PRODUCTS

Founded in 1819, Wienerberger has grown into a world-class provider of wall, roof and landscaping solutions with a global reach.

With 201 plants in 30 countries – 14 of them in the UK, 14,800 global employees – we lead the way in new build and renovation markets, offering more than 1,000 products encompassing the complete building envelope.

Our product innovation is measured against three key benchmarks: quality of construction, perfection in performance and increasingly, sustainability. All three inform every paver in this brochure, and every product we produce.



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WIENERBERGER - THE SUSTAINABILITY STORY

For Wienerberger, sustainability is a dynamic and lasting commitment. It has been embedded in our management and culture for as long as we can remember. It's an approach that will drive us into a greener future.

We strive to maximise sustainability without compromising the performance of our products – it's central to our output worldwide.

- We are signatories of the British Ceramic Confederation Health and Safety Pledge
- All of our production processes meet the requirements for the Responsible Sourcing of Construction Products throughout the supply chain as defined in the BRE Environmental and Sustainability Standard BES 6001
- Material efficiency improvements at Broomfleet have saved the equivalent of 8,000 tonnes of clay since 2011
- In 2014 the amount of renewable electricity consumed by & exported from Wienerberger sites represented more than half of our total electricity use



Sustainability is at the heart of our paving product range. Our Dutch manufacturing operations meet the requirements of ISO 14001, ISO 9001 and KOMO quality certification systems at national level and use 100% green electricity across all its sites.

Dutch clay: a renewable source

The amount of clay extracted annually by the ceramic industry in the Netherlands from the floodplains of their rivers is only a small part of the possible amount of extractable clay and in fact the Dutch rivers naturally deposit more clay than the amount extracted annually*.

The company participation in river management and clay winning helps to make the Netherlands resistant to the effect of rising water levels. In Munnikenland, near Castle Loevestein, Wienerberger is involved in the clay extraction and after completion this will result in a river water level reduction of 30 cm for the nearby village of Gorinchem.

Clay is extracted in the close vicinity of the Wienerberger production sites and moved by barge, thereby minimising lorry movements.

Like all operations worldwide Wienerberger Netherlands is an active player in its country's sustainability agenda. The company is a long-term member of the Dutch covenant Multiyear Energy Efficiency (MJA) and a signatory to the Foundation for Climate Friendly Procurement & Entrepreneurship (SKAO).

* Michiel J. Vander Meulen et-al, 'Sediment management and the renewability of flood plain clay for structural ceramics', J Soils Sediments, Springerlink.com, 2009.

WHY CHOOSE CLAY?

Used for thousands of years in construction worldwide, clay remains the most efficient, cost effective and sustainable solution for modern buildings.

Its natural properties mean that it is able to provide complete, long- term sustainability, not only offering increasingly sophisticated low-carbon product manufacture, but giving a building life of up to 100 years with little or no maintenance.

Clay is strong, durable and builds in sound and temperature-control benefits wherever it's used – creating the ideal internal living environment.

From sustainability credentials and build quality to the ease of use on-site, clay as a material is equipped to meet every demand of modern construction.

Wienerberger and clay

Wienerberger has blended the very latest in manufacturing technology with an established construction heritage. The result is a product portfolio that is unmatched in range and quality.

Every single paver, from first to last, has been designed to convey our passion for the material; created to give our customers the highest quality, the best price and the widest choice.

Our products represent the best of clay, and the best of building.





PAVER MANUFACTURING SITES

Kingsbury, England

Netherlands

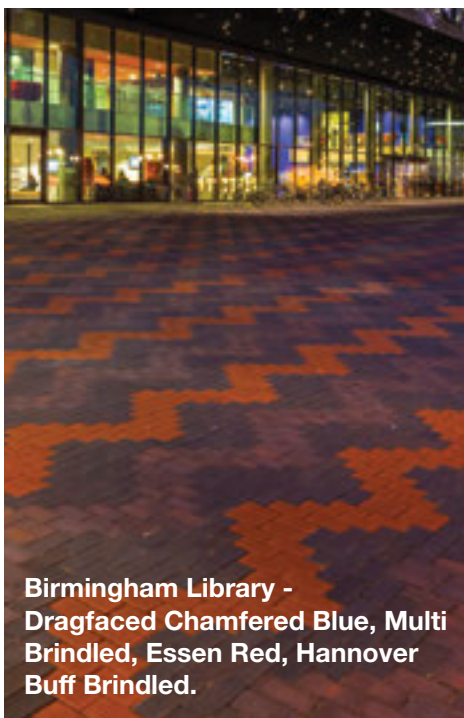
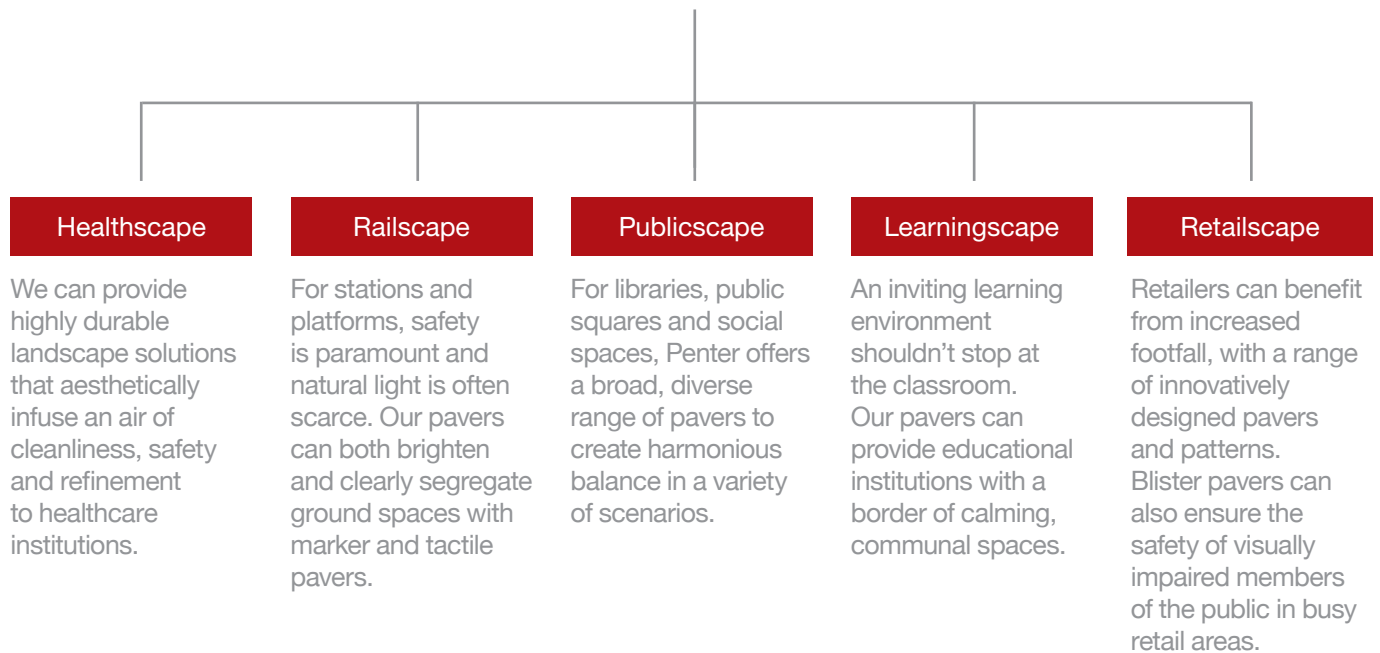
Germany



PAVING SECTORS



Landscaping Solutions



Birmingham Library -
Dragfaced Chamfered Blue, Multi
Brindled, Essen Red, Hannover
Buff Brindled.

WIENERBERGER CPD

Wienerberger's Benefits of Clay Paving CPD presentation has been formally accredited by the Royal Institute of British Architects (RIBA), paving the way for the CPD to be presented to architects and construction professionals.

Benefits of Clay Paving explains the significant benefits of using

clay for landscape projects, drawing on sustainability, laying patterns, accessories and ease-of-maintenance. A wide range of product options are also showcased within the presentation, providing information on the credentials of each paver and examples of projects that have utilised our products.

This NEW RIBA-approved CPD from Wienerberger, discusses not only the benefits of using natural clay paving but the practicalities including a look at BS EN 1344:2013, construction types, laying patterns, accessories and maintenance.

To book a CPD presentation call us on 0845 303 2524





Roehampton University -
Herne Dark Brindled Slim Pave

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LOCATIONS
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TO 5,000 SQ. FT.

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LEARNINGScape AT BATH SPA UNIVERSITY

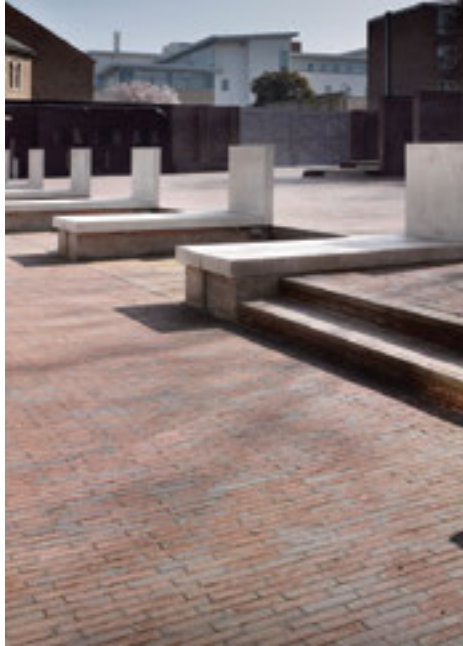
●..... A mixture of clay and other natural products were in the landscape area at Bath Spa University

●..... Penter's Auraton WF pavers were specified on the project

●..... Natural clay paving keeps its colour for the entire lifecycle

●..... The UK's largest natural clay paving product portfolio

WIENERBERGER PAVERS IN ACTION



THE YARD, UNIVERSITY OF ROEHAMPTON, LONDON

Client: University of Roehampton

Architect: Henley Halebrown Rorrison

Pavers used: Herne Dark Brindled Slimpave

Paved area: 1,600m²

Learningscape

The Yard forms a central part of the master plan for the University of Roehampton. The project replaces an old trades yard and workshops at the heart of the campus, with a new public space that links Froebel and Digby Stuart Colleges, which were once separated by a boundary wall.

The scheme creates a single paver-lined space. Clay bricks and pavers were chosen to unify the old and the new, for surface, structure and skin, and to achieve a consistency through the range of different conditions and details, including conservation and repair. Furthermore, The Yard, capitalises on the eccentric building remains and ground conditions revealed by the demolition of the workshops. The design harnesses these eccentricities to reduce environmental waste.

New structural openings have been made to open the chapel and an existing café up to the Yard. The historic boundary wall has been reduced in height and buttressed within the Yard to make it structurally sound. New flat brick arches have been introduced and openings formed to link the Yard to the historic Froebel garden and the Courts. To the north a new covered walk way has been carved out of an existing building.

Clever detailing and design has allowed the paver to be used in the new brickwork and surrounding walls, taking the aesthetics of the product into the vertical from the horizontal.

The impression of solidity in the paver is honestly revealed in the free standing flemish-bond bench walls, whilst the





one-third stretcher bond brick skins are used as building envelopes drawn over existing walls left exposed from the demolition works.

The paving is laid in a variety of bonds including one-third stretcher, stack and herringbone. Niche benches built into the walls and copings are cast and etched reconstituted stone. Their pigment, similar to that of the lime-wash for the historic boundary wall, has been derived from grinding up samples of the new pavers from site.

The paver, which has also been used as a brick is unique in the UK. It is thin - 210mm x 50mm x 70mm. It is waterstruck which gives it a rough quality. The colour varies: the clay when

fired turns purple, silver, brown and red. In the large, uninterrupted brick-paved areas, these silver pavers form eye-catching elements and enliven the hard bricklaying.

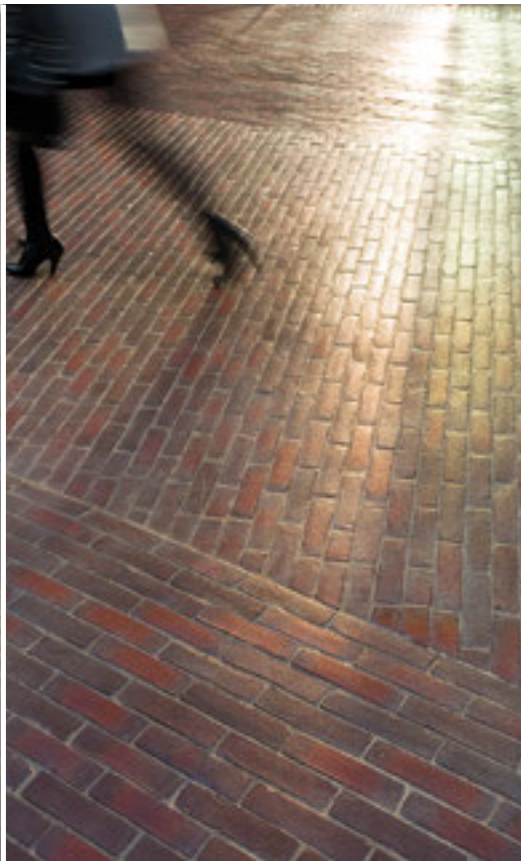
The depth of jointing is also varied: in structural walls it is recessed, for bench back-rests it is flush, whilst paving joints are tightly sanded or laid in a matrix of pea gravel to promote the growth of vegetation. By using 12mm bedding joints, 5 courses of new brickwork corresponds exactly with 4 courses of the standard bricks of the existing walls, giving rise to a playful mini dialogue of scale. Lime forms part of the light black brown mortar within to eliminate expansion joints.

The Yard creates a new intersection at the heart of the campus, a place for people to meet and work, and a place for events.

These particular pavers offered scope for expression because of their non-standardised dimensions and their varied range of surface finishes, textures and colours.



Case study available to view
www.wienerberger.co.uk/inspiration



PICCADILLY PLACE, MANCHESTER

Client: Argent, Piccadilly Place

Architect: Austin-Smith:Lord LLP

Pavers used: Padova (Eindoven Mixed Red), rigidly laid

Paved area: 835 m²

Railscape

Echoing the earthy red tones of the industrial heritage of Manchester and the surrounding new-build complex, Piccadilly Place is the stunning central plaza of a landmark mixed use development. The incorporation of Wienerberger's Dutch Clay paving enabled the landscape architects to complete the scheme with a pallet of complementary colours and textures. Master planned and conceptualised by award-winning, international architectural practice Austin-Smith:Lord, on behalf of property developer Argent, Piccadilly Place is regenerating and attracting

investment to a vibrant and distinctive Manchester City district. The mixed use development includes high quality public realm areas, a hotel, four office buildings, residential accommodation, retail space and the main Manchester Tramline.

Visitors to Piccadilly Place are greeted by the sound of water as it cascades down a water-wall and escapes into a broad rill, which draws them into the piazza at the heart of the development. With its simple layout, devoid of any vertical elements, the piazza emphasises

INSTARMAC®



the scale of surrounding colonnaded buildings with restaurants, bars and shops spilling out across the space.

Austin-Smith:Lord understood that simplicity of layout places considerable emphasis upon the nature and quality of materials used. The rich colours within the Eindhoven Mixed Red clay pavers add warmth to the main piazza, complementing the contemporary use of porphyry and granite within the water feature, as well as providing a link to the historic

terracotta tile and red brick buildings in the vicinity. The striking colour range available from this natural product will endure as the space matures over time.

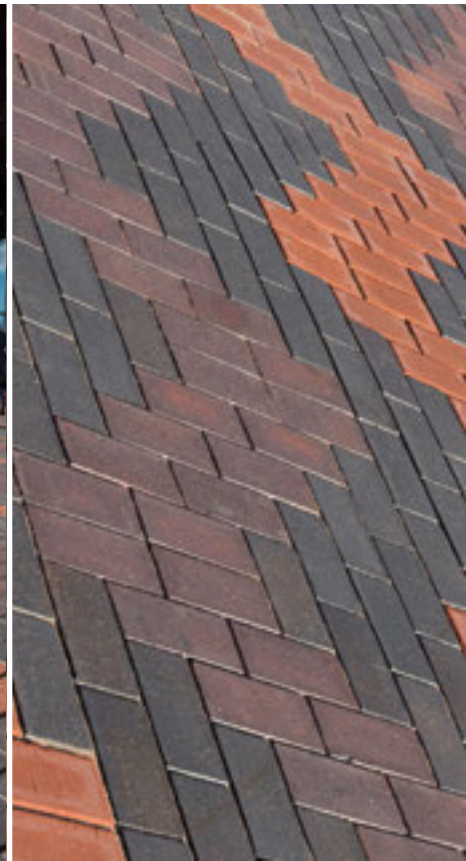
The Wienerberger Dutch Clay pavers were selected for their textural qualities. Pavers were laid rigidly using Instarmac Flowpoint and Probed, a grout designed for low ground maintenance and the perfect compliment to Penter's Dutch Collection. Pavers were designed

using a stretcher bond pattern applied within a trapezoidal paving layout to emphasise and highlight the pavers unique geometry, shape and size.

For more information on Instarmac products see Section 6: P2.



WIENERBERGER PAVERS IN ACTION



THE LIBRARY OF BIRMINGHAM

Client: The Library of Birmingham, The redesign of Centenary Square

Architect: Mecanoo

Pavers used: Dragfaced Chamfered Blue, Multi Brindled, Essen Red, Hannover Buff Brindled.

Paved area: 3,600m²

Publicscape

From the moment that it was unveiled in September 2013, the unique architectural design of The Library of Birmingham has captured the imagination of the British public. Wienerberger, the leading supplier of wall, roof and landscaping innovations, was chosen to provide clay pavers to the project, which has transformed Centenary Square, the largest public square in the heart of Birmingham. However, such a task was not as straightforward as it might initially sound. It wasn't simply a matter of choosing paving to suit the practical needs of the area, but a process that had to carefully consider a whole gamut of geographic, architectural and historical requirements.

For example, there was a very clear requirement for the paving to provide Centenary Square with a sense of coherence; to provide a physical

and symbolic link between the bold, unapologetically modernist external appearance of the library itself and the proud architectural heritage of the region; the Victorian red clay brick and terracotta building stock that quickly became synonymous with the inner-city Birmingham of centuries past.

Of course, despite its shiny modern appearance, the Library itself, in both material and structure, has been cleverly designed to offer subtle references to the past – albeit in a way that is ostentatiously futuristic. The founder of the Dutch architectural practice Mecanoo, Francine Houben, commented that the £189 million project that she helped create, wears its filigree skin of metal loops as a 'motif' of the city: 'The façade recalls the industrial gasometers as well as the history of the jewellery trade here'.

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That said, these striking rings also give the building a significant dose of something less traditional on major public buildings, and more common behind the fortified glass of the city's specialised retail quarter: bling. As such, the sense that the project creates, perhaps more than anything else, is a deeply satisfying feeling of juxtaposition as familiar materials are expressed in unfamiliar ways. With this in mind it was crucial that the paving in Centenary Square was able to maintain this delicate aesthetic balance.

In order to do so, the style of pavers chosen needed to mesh with the design of the square into three distinct realms: monumental, cultural and entertainment. Like the material choices on the library, these palazzos illustrate important periods in the history of the city, and accentuate an artisan tradition within a famously industrial region.

Wienerberger's Dragfaced Chamfered Blue and Multi Brindled pavers were selected along with the Essen Red and the Hannover Buff Brindled paver to create what Mecanoo calls the 'red line' to lead pedestrians into Centenary Square.

The Penter range of chamfered pavers is renowned for its durability and distinctive colour selection, making it ideal for creating designs that harmonise and accentuate the landscape. The Dragfaced Chamfered Blue and Multi Brindled pavers are produced from Wienerberger's clay reserves at its renowned Kingsbury factory, while Baggeridge pavers are well known for their vibrant colours and unique deep blues, as well as being able to withstand demanding application. The Essen Red and the Hannover Buff Brindled are traditional rectangular clay pavers, which are both practical and versatile.

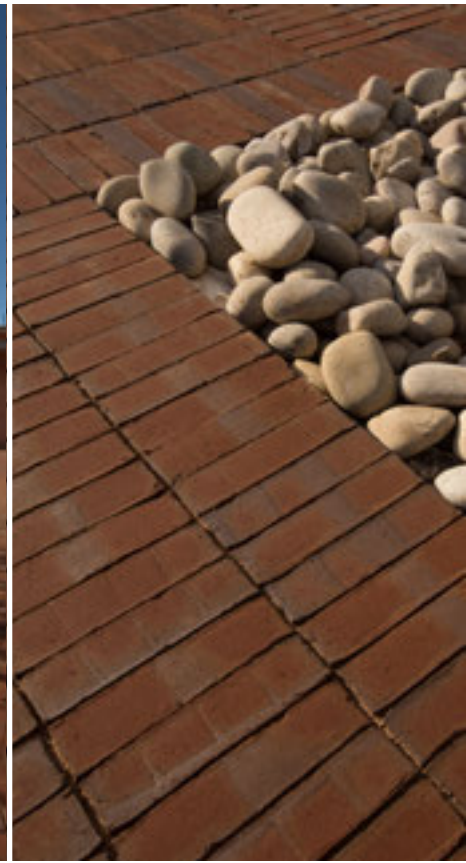
Aside from the practicality and durability of these particular pavers, the colours have also been carefully selected to match, contrast and cohere with the building (and indeed the surrounding area). Combined with the different paver surface finishes, and the variation of bond including stretcher and herringbone, the intention was to maintain a vivid sense of textural depth. Naturally, the aluminium rings of the library represent a pronounced aesthetic texture, and the intention was to mirror this impact across the Centenary Square palazzos so that as the eye is drawn down from the top of the structure, the paving visual will continue to deliver impact and intrigue.



Case study available to view
www.wienerberger.co.uk/inspiration



WIENERBERGER
PAVERS
IN ACTION



BIRMINGHAM DOG'S HOME

Client: Birmingham Dogs Home

Architect: One Creative Environments

Pavers used: Rosa Waterstuck

Paved area: 600m²

Publicscape

Founded in 1892, Birmingham Dogs Home has undergone significant redevelopment to ensure it provides world-class facilities for the Midlands' dogs-in-need following a fire, which destroyed the original building in 2014. With facilities at capacity, a new centre has been constructed that will comprise of 130 large kennels.

Following a thorough inspection of 65 potential sites, the trustees of the home settled upon a 12.45-acre site on Catherine de Barnes Lane in Solihull. It is here that the kennel's new home has been built. The location sits within green belt land and as a result had to meet a string of environmental considerations and criteria.

The key consideration for the new building was to create an environment that reduced the stress placed upon the dogs to as little as possible, but the developers also wanted to promote

sustainable technology and materials in its design. To help achieve this objective, Jennifer Roberts CMLI, Senior Landscape Architect from One Creative Environments, specified Rosa Waterstuck Dutch pavers from Penter, the landscape brand of Wienerberger. The specification of clay pavers, by virtue of the inherent benefits found in clay products, helped to increase the project's green credentials as the material, unlike concrete alternatives, can easily provide longevity of up to 200 years and more, after which time the pavers can be reclaimed. In addition to the already substantial benefits of clay, the material is durable - which is perfect for the expected high footfall at the dogs' home - it is resilient and robust in the face of climatic change.

Beyond the advantages of clay, the pavers were specified for their red patina, which helped maintain a sense of harmony between the landscaped





area and the surrounding redbrick vernacular. The selection of the 200 x 48 x 85 pavers offered unique possibilities due to their bicolour nature. These tones create interest and a welcoming environment as the myriad hues suggest quality and careful specification.

A primary objective of the relocated facility has been to provide an environment that reduces the level of stress placed upon the dogs in care. With this in mind, architects focused on the fact via good design and careful environmental control, the stress could be reduced.

The wider project has created a fascinating example of the creation of an environment that will not only help to provide a pleasant home for the dogs, but a space where the education of responsible dog ownership can be promoted. To achieve this, the design team has made the area as green

as possible – a subtle reminder that dogs are happiest when outdoors. The wall, for example, retains subtle earth mounding to the front face, which allows for the ground to rise up from the surrounding meadows to afford the area partial concealment. Once visible, the area in front of the entrance adds further architectural interest by creating a colour contrast - the juxtaposition between the turfed areas and the red pavers.

Alongside Penter, the design team was also able to work with ACO Water Management, a world leader in the design, development and implementation of sustainable surface water management systems. The combined landscape design took advantage of ACO's MultiDrain™ system, which not only assists in the efficient drainage of water, but also adds to the sustainable credentials stated in the design. The system employs recycled materials and ensures that

surface water drains efficiently and effectively.

What's more, the pavers were installed via flexible construction. Flexible construction refers to a method that includes a level of tolerance for small amounts of movement within the paved area. This traditional form of installation results from the pavers being laid on a bed of sand and also jointed with it.

The completed project clearly meets the objectives set within its brief. The delicate balance between design and sustainability has been maintained with the dogs home providing a pleasant setting for canine rehabilitation and educational space, whilst ensuring the project's impact upon the environment is kept to an absolute minimum.



Case study available to view
www.wienerberger.co.uk/inspiration



WIENERBERGER PAVERS IN ACTION



EAST KENT COLLEGE

Client: East Kent College

Design & Build Contractor: Benning Brothers

Pavers used: Dortmund Dark Multi, Dragfaced Square Edged Blue

Paved area: 1,500m²

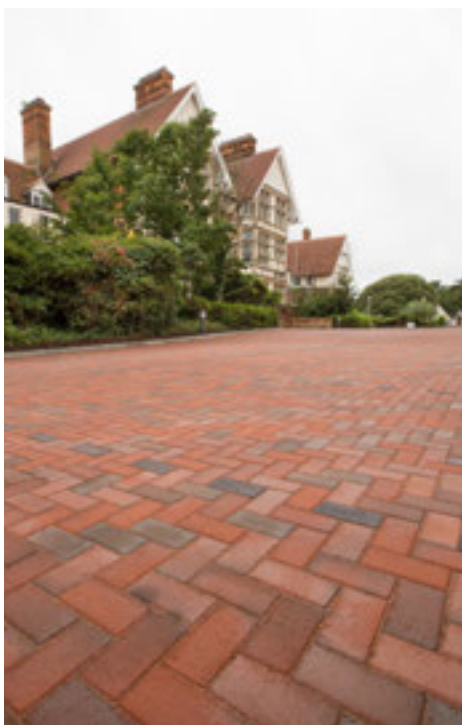
Learningscape

Set on the Broadstairs campus of East Kent College, construction has now come to a close on extension works to an existing road at the college site, which was required to take place in the curtilage of a listed building.

The work was part of the £10 million project, which included the construction of a state-of-the-art hotel and hospitality training centre within the college's Yarrow Building, providing the perfect learning environment for skills linked to event management, hospitality, travel and tourism.

The project utilised Wienerberger's Penter Dortmund Dark Multi and Dragfaced Square Edged Blue pavers, as a clay paving product was required in lieu of concrete to give the finish and longevity the client required, in accordance with planning requirements and ensuring that the colour and design of the road complimented and maintained the character of the building.

The £300,000 Yarrow Training Hotel Road project required the installation of a high performing road extension that would enhance the overall feel of the



refurbished listed building, making it the focal point of the college campus. The road now extends beyond the hotel campus, through to the nursery on the site, allowing for additional parking and drop off points at the college.

Nick Rudham, National Sales Manager – Paving at Wienerberger, commented: *“We are delighted to have been involved with the work on the Broadstairs campus of East Kent College. The heritage of the site, along with being tasked to work on a project where we were required to extend the look and feel of a listed building made this a truly exciting project. Now it’s complete, we’re extremely pleased with how our products have ensured that the colour and design of the road perfectly compliments and maintains the*

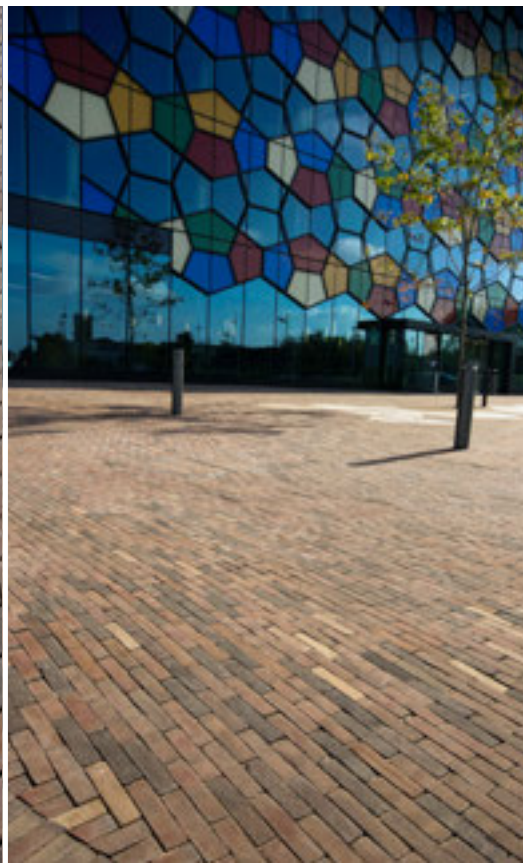
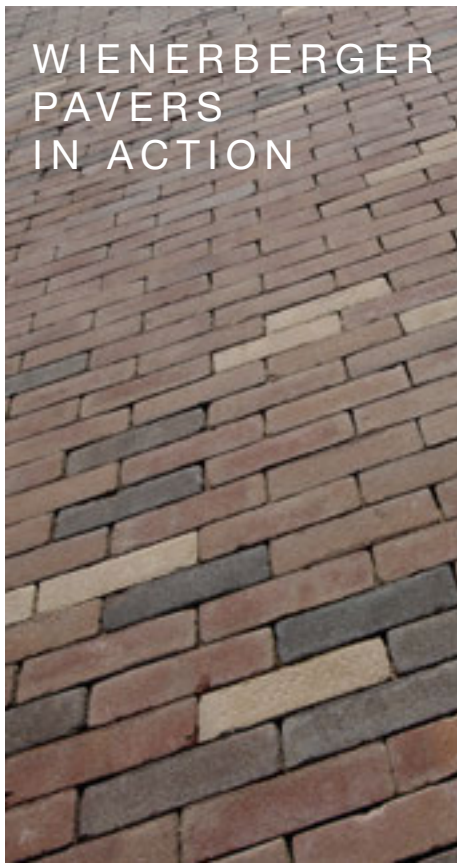
character of the building.”

He continued:

“The overall redevelopment of the area, which included the construction of a state-of-the-art hotel and hospitality training centre is great news for the college and we’re thrilled that our work on the high performing road extension has enhanced the overall feel of the refurbished listed building, making it the focal point of the college campus. It truly was a great project to be involved with, and we’re very happy with the outcome of the work.”



Case study available to view
www.wienerberger.co.uk/inspiration



SMITHFIELD CENTRAL BUSINESS DISTRICT, HANLEY, STOKE-ON-TRENT

Client: Genr8 Developments Ltd and Stoke-on-Trent City Council

Architect: Planit-IE **Landscape Architect:** RHWL Architects

Pavers used: Dutch Clay (Ravenna, Mastiek, Siena & Basalt blends)

Project size: 210,000 sq ft

Publicscape

With regeneration work currently ongoing throughout Stoke-on-Trent city centre, it would have been easy for work on Smithfield Central Business District (CBD) to blend in to the backdrop of high quality granite. However when introducing a Central Business District to the immediate south of the city, it was proposed that the public realm should have its own distinctive character. As a result of this decision, Wienerberger and Hardscape supported the area to embrace its pottery making history, combined with the ingredient of red marls to inform the development of a warm colour palette.

The work, which commenced in 2014, was part of a £32.7million development project, for which Wienerberger's Dutch Clay pavers in Ravenna, Mastiek, Siena and Basalt blends were selected for the project, through Hardscape's material advice process. Hardscape's Magma Granite paving and Crystal Black

Granite were also selected due to their beautiful aesthetics and resistance to wear. The project also sparked the wider regeneration of the city, delivering a project and an environment that will put Stoke-on-Trent on the national stage and attract major inward investment.

The site's former use as industrial earthenware works was a key driver for the architecture, which aims to remind people of the city's industrial heritage, while extensive work has been completed on both the scheme's design and brand proposition to ensure that Smithfield achieves its goal of attracting occupiers and investors. Within Stoke-on-Trent there is a mix of green space and hard landscape, something that was an important factor in the development of the Smithfield CBD, to ensure this mix was continued. Master planners and lead designers RHWL Architects also designed the two



office buildings, which will deliver state-of-the-art office space that exceeds energy consumption reduction targets and aims for BREEAM Excellent ratings.

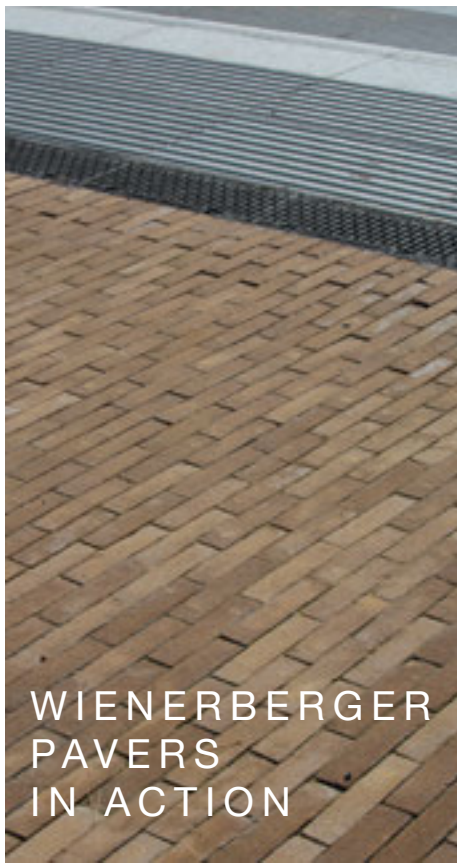
The development of the two buildings, which boast 210,000 sq ft of space, will be occupied by the city council once completed and the Smithfield Central Business District is the catalyst that will ultimately spark the wider regeneration of the city. The project, which utilises contemporary linear format clay paving, combined with threads of granite to add a continuity that flows throughout the city centre, provides a distinctive and vibrant civic public space.

Since the 17th century, Stoke-on-Trent and the surrounding area have been almost exclusively known for its industrial-scale pottery manufacturing. A local abundance of coal and clay,

suitable for earthenware production, led to the development of this industry. Using clay paving and bricks within the site therefore seemed a fitting response. Conceptually this led to the consideration of the process and story behind making clay bricks and how this could influence the character and colour of elements within the landscape. The brick making narrative follows a process from a naturally occurring resource below ground, to a refined finished product or object on or above it. This journey from geology to a finished element influenced the character of the public realm. The manifestation of planting, paving and water embodied this narrative, reflecting the subtle progression across the site from naturalistic to formal.



Case study available to view
www.wienerberger.co.uk/inspiration



TELFORD SHOPPING CENTRE, TELFORD

Client: Telford and Wrekin Council

Architect: Barton Willmore and Gillespies Architects

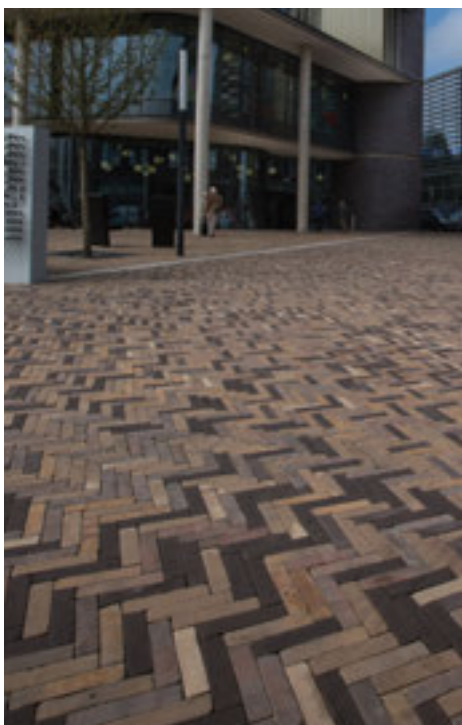
Pavers used: Dutch Clay (Siena, Auraton, Mastiek)

Paved area: 1,500m²

Publicscape

The first phase of Telford's groundbreaking Southwater development has been completed. The unveiling of the gold-clad Telford & Wrekin Council building signals the start of the £250million investment in the Shropshire town. The project – situated on green belt, waterside land - represented a serious aesthetic challenge for the developers at Morgan Sindall. Careful selection of building materials was of paramount importance to the design and Wienerberger was chosen to provide clay pavers.

There was a clear requirement for the paving to provide Southwater One with a physical and symbolic link between the bold, unapologetically modernist external appearance of the development and its natural surroundings. The Siena (Hague Cream) pavers addressed that specification; the warm, sandy, tones blending with the surrounding natural landscape on the waterfront. In addition, the use of Wienerberger's Mastiek and Auraton pavers, with their clean grey finishes, created a crisp patina to the heart of the scheme: 'the library'.



The finished development is intended to create an exciting commercial space, while also providing a sense of tranquillity and solidity. The use of clay paving has helped to realise this, with its natural durability addressing the latter, while the laying pattern and colouration contribute to the former. With both the rigid Stretcher pattern and the more sporadic Herringbone technique being employed, the retail scape is afforded both consistency and variety.

Ultimately, the project's architectural ambition promises to provide a high functioning retailscape from which Telford can develop its business, retail, commerce and public facilities. Southwater One stands as a testament to the vision of urban planners, and the intelligent application of building

materials and techniques.

Keith Barker, Commercial Director at Wienerberger, commented:

"This was a scheme with a great deal of considerations, from material performance and local environment, right down to the smallest design spec - but it's that sort of attention to detail that defined this project, and made it something that we were so very keen to contribute to."



Case study available to view

www.wienerberger.co.uk/inspiration



Telford Shopping Centre, Telford -
Dutch Clay (Siena, Auraton, Mastiek)





Whitburn Bay, Sunderland - Siena

DUTCH PAVERS

Wienerberger has created its Dutch collection to achieve a new and unique look in larger areas of urban paving.

Wienerberger's mixed reds, creams, greys and waterstruck blends offer designers a wider choice and scope when designing new landscapes.

Versatile & authentic

Wienerberger offers a wide choice of high quality, durable and permanently beautiful street clay pavers.

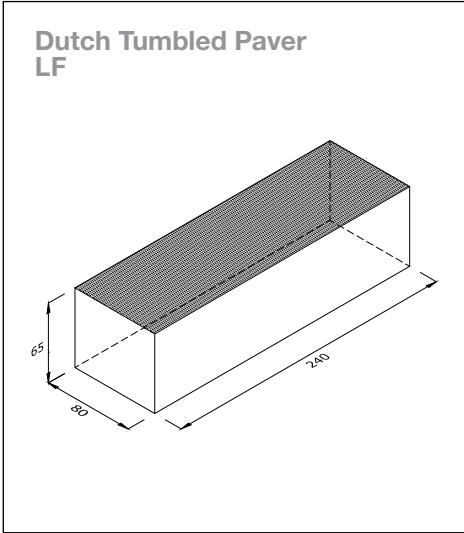
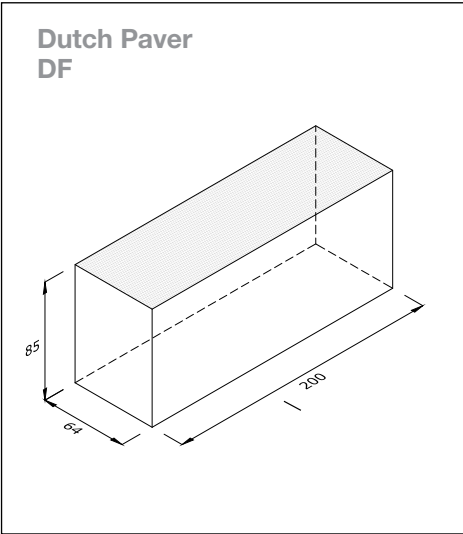
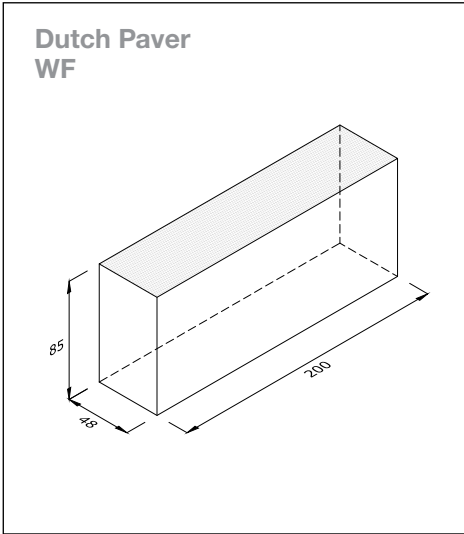
Discover the versatility of the range of pavers, get inspired for your next landscaping project and see what fits your outdoor paving needs.

DUTCH PAVERS



Bath Spa University - Auraton WF

STANDARD
DIMENSIONS



DUTCH PAVERS

BUFF/ BUFF MULTI

DUTCH PAVERS BUFF / BUFF MULTI



Siena - (Hague Cream) WF



Siena - (Hague Cream) DF



Telford: Southwater one - Siena

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	SRV	ABRASION	DURABILITY	QUANTITY PER m²	Available TUMBLED
Siena - (Hague Cream) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Siena - (Hague Cream) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓



DUTCH PAVERS BUFF / BUFF MULTI



Zonnebloem Waterstruck
(Tilberg Blended Ochre) WF



Zonnebloem Waterstruck
(Tilberg Blended Ochre) DF



Auraton WF



Auraton DF



Euroton Varia WF



Euroton Varia DF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Zonnebloem Waterstruck (Tilberg Blended Ochre) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Zonnebloem Waterstruck (Tilberg Blended Ochre) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✗
Auraton WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Auraton DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Euroton Varia WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Euroton Varia DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✗

DUTCH PAVERS

SOLID RED

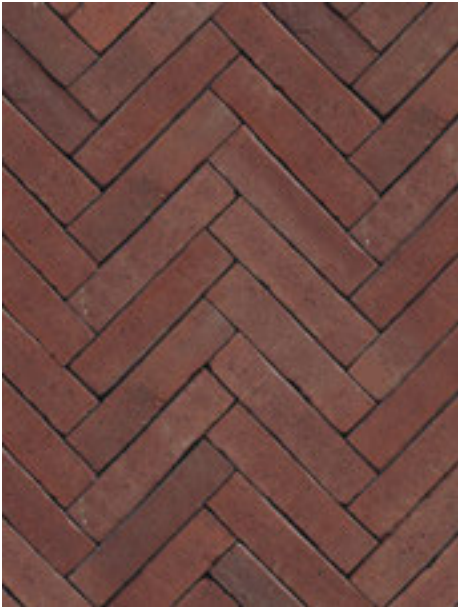
DUTCH PAVERS SOLID RED



Bruno WF



Bruno DF



Bruno Waterstruck
(Delft Dark Blend) WF



Bruno Waterstruck
(Delft Dark Blend) DF



Paviona (Arnhem Red) LF



Paviona (Arnhem Red) WF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Bruno WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Bruno DF	200 x 64 x 85	R1	T4	U3	A2	FP100	100	✓
Bruno Waterstruck (Delft Dark Blend) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Bruno Waterstruck (Delft Dark Blend) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Paviona (Arnhem Red) LF	240 x 80 x 65	R1	T4	U3	A2	FP100	70	✓
Paviona (Arnhem Red) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Paviona (Arnhem Red) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓



Paviona (Arnhem Red) DF



Paviona (Arnhem Red) DF

DUTCH PAVERS SOLID RED



Paviona (Arnhem Red) WF

RED MULTI

DUTCH PAVERS RED MULTI



Novoton WF



Novoton DF



Rosa Waterstruck WF



Rosa Waterstruck DF



Euroton Novoton WF



Euroton Novoton DF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Novoton WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Novoton DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Rosa Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Rosa Waterstruck DF	200 x 64 x 85	R1	T4	U3	A3	FP100	100	✓
Euroton Novoton WF	200 x 48 x 85	R1	T4	U3	A2	FP100	75	✓
Euroton Novoton DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓



Padova (Eindhoven Mixed Red) LF



Padova (Eindhoven Mixed Red) DF



Padova (Eindhoven Mixed Red) WF



Birmingham Dog's Home - Rosa Waterstruck

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m ²	AVAILABLE TUMBLED
Padova (Eindhoven Mixed Red) LF	240 x 80 x 65	R1	T4	U3	A2	FP100	70	✓
Padova (Eindhoven Mixed Red) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Padova (Eindhoven Mixed Red) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓

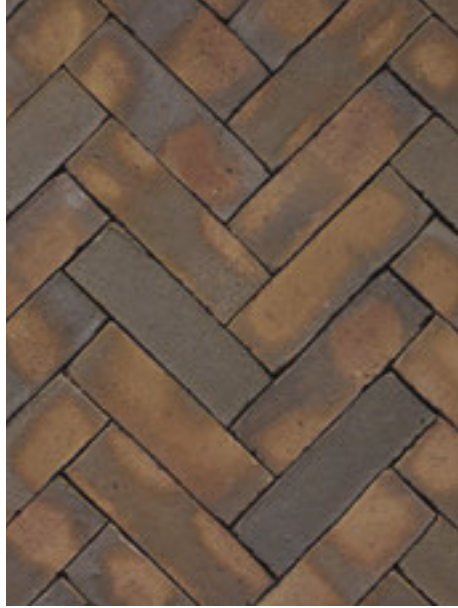
DUTCH PAVERS

BROWN
MULTI

Southwater One, Telford - Blend of Mastiek, Auraton and Siena



Oliva Waterstruck WF



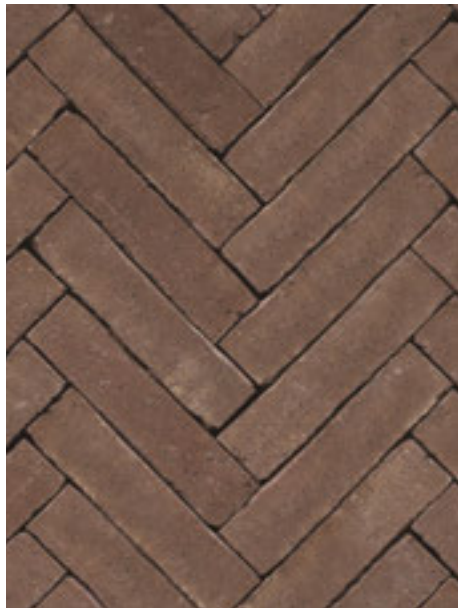
Oliva Waterstruck DF



Oliva WF



Oliva DF



Mastiek Waterstruck WF



Mastiek Waterstruck DF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Oliva Waterstruck WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Oliva Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Oliva WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Oliva DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Mastiek Waterstruck WF	200 x 48 x 85	R1	T4	U3	A2	FP100	100	✓
Mastiek Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓

DUTCH PAVERS BROWN MULTI



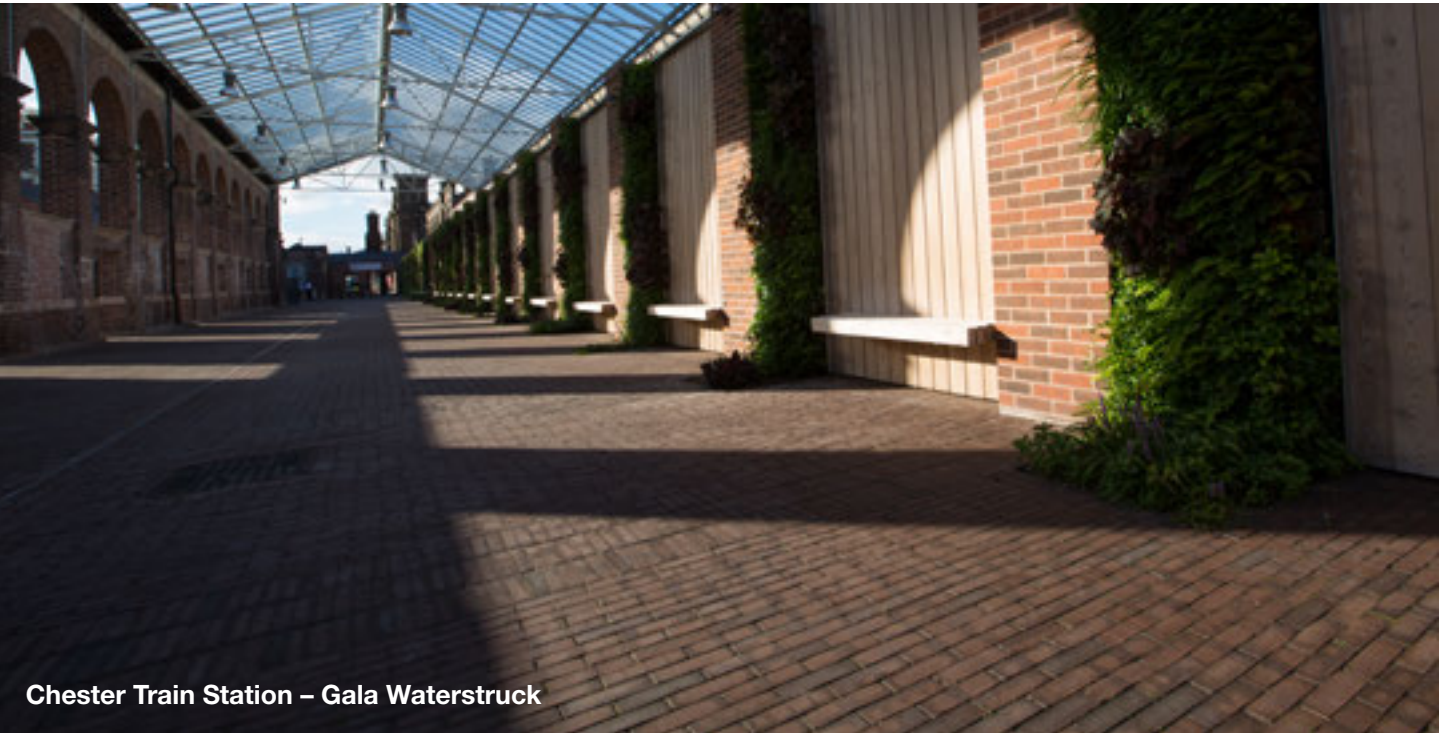
Mastiek LF



Mastiek WF

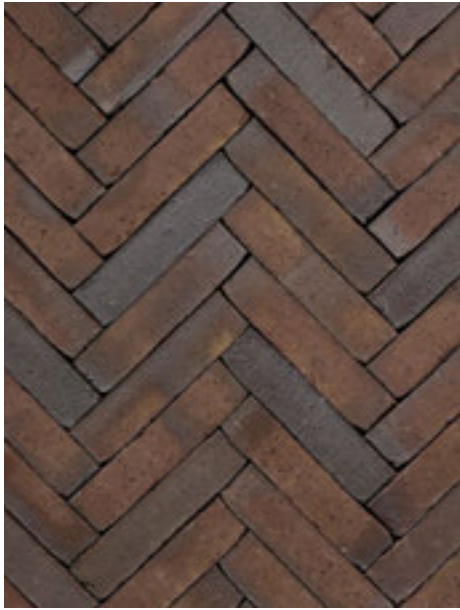


Mastiek DF

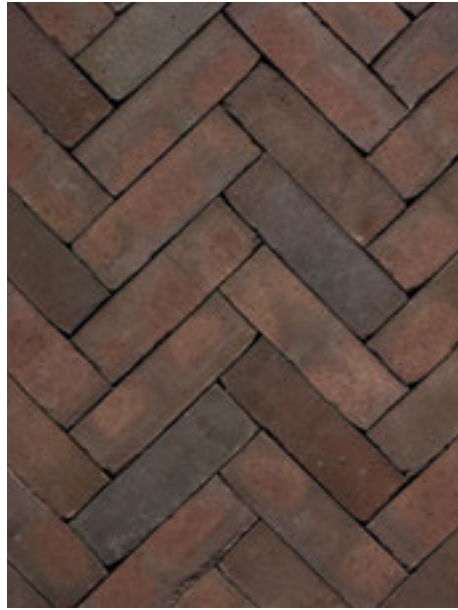


Chester Train Station – Gala Waterstruck

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Mastiek LF	240 x 80 x 65	R1	T4	U3	A3	FP100	55	✓
Mastiek WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Mastiek DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓



Gala Waterstruck (Paars-Blauw) WF



Gala Waterstruck (Paars-Blauw) DF



Porto WF



Porto DF



Incana Waterstruck WF



Incana Waterstruck DF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Gala Waterstruck (Paars-Blauw) WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Gala Waterstruck (Paars-Blauw) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Porto WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Porto DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Incana Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Incana Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓

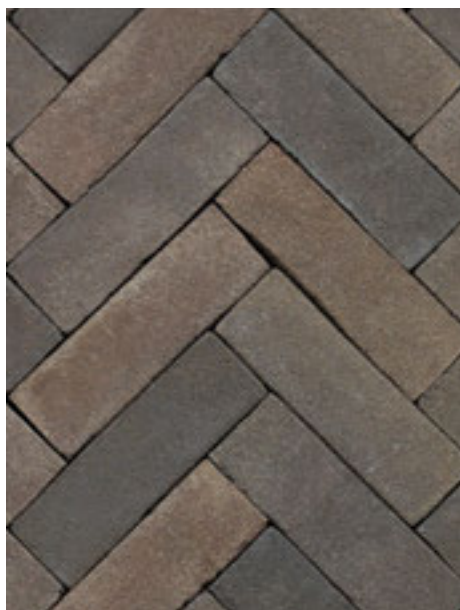
DUTCH PAVERS

GREYS AND BLACKS

Omber DF



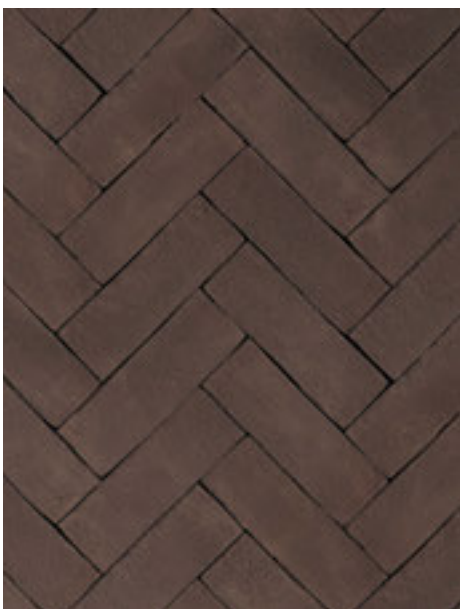
Basalt WF



Basalt DF



Omber WF



Omber DF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m ²	AVAILABLE TUMBLED
Basalt WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Basalt DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Omber WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Omber DF	200 x 64 x 85	R1	T4	U3	A3	FP100	75	✓

DUTCH PAVERS GREYS AND BLACKS



Nero Waterstruck WF



Nero Waterstruck DF



Nero (Maastricht Dark Grey) DF



Nero (Maastricht Dark Grey) WF

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²	AVAILABLE TUMBLED
Nero Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Nero Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓
Nero (Maastricht Dark Grey) WF	200 x 48 x 85	R1	T4	U3	A3	FP100	100	✓
Nero (Maastricht Dark Grey) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	75	✓

TUMBLLED

The characteristic features of the 'Old Holland' range include a tumbled edge with sanded or waterstruck textures. The range is available in tones of reds, browns, lighter greys and buff pastel shades to blend perfectly within a variety of surroundings.

DUTCH PAVERS TUMBLED



Alfaton UWF Tumbled



Atlas UWF Tumbled



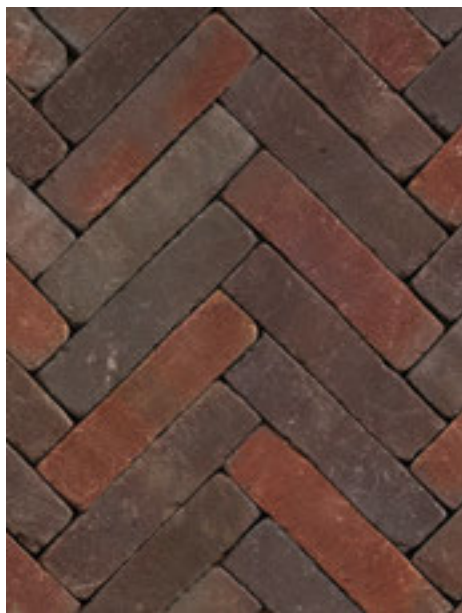
Caron UWF Tumbled



Dione UWF Tumbled



Lotis UWF Tumbled

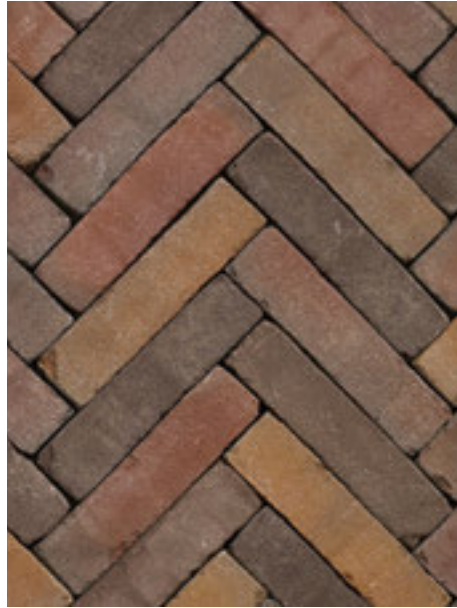


Qualiton UWF Tumbled

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Alfaton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	98
Atlas UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	100
Caron UWF Tumbled	200 x 200 x 65	R1	T4	U3	A2	FP100	25
Dione UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	100
Lotis UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	98
Qualiton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	98



Ruston UWF Tumbled



Supraton UWF Tumbled

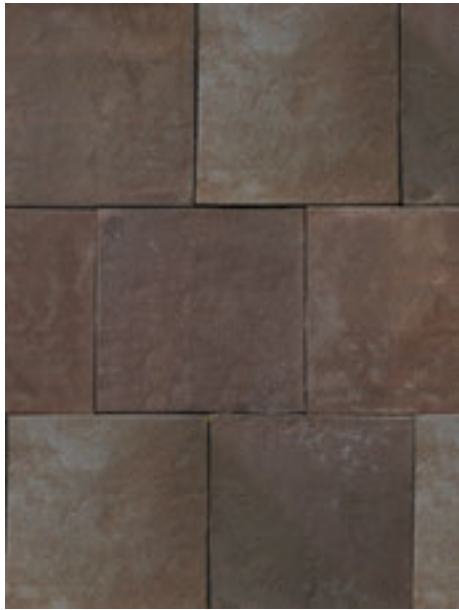


Triton UWF Tumbled

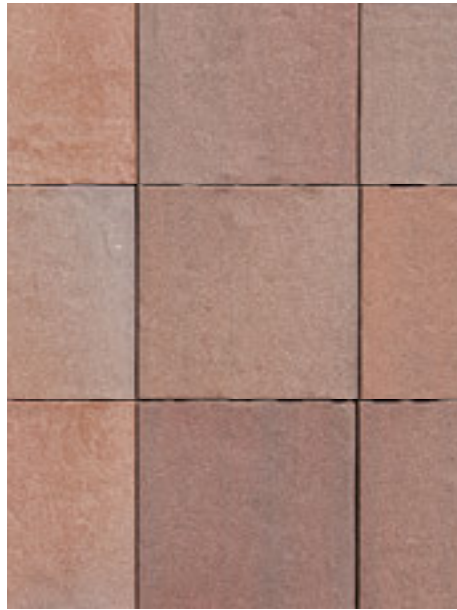
PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m ²
Ruston UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	98
Supraton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	98
Triton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	100

DUTCH PAVERS

TEGEL
200x200



Astra Tegel TF



Orion Tegel TF



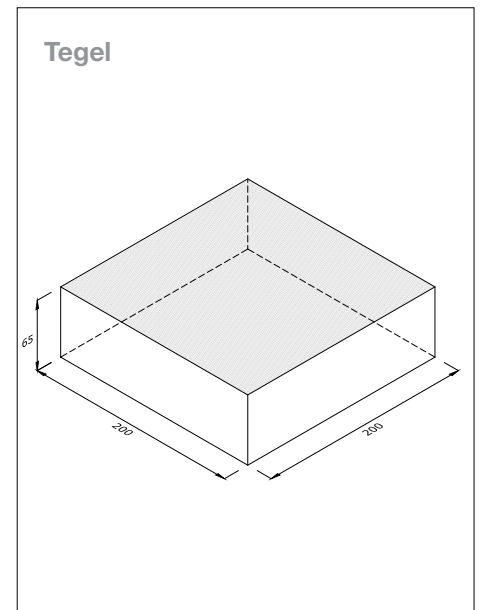
Bruno Tegel TF



Caron Tegel TF



Mastiek Tegel TF



PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Astra Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	25
Orion Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	25
Bruno Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	25
Caron Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	25
Mastiek Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	25



Park, Germany - Bochum Orange Multi





Olympic Village, Barcelona, Spain -
Essen Red

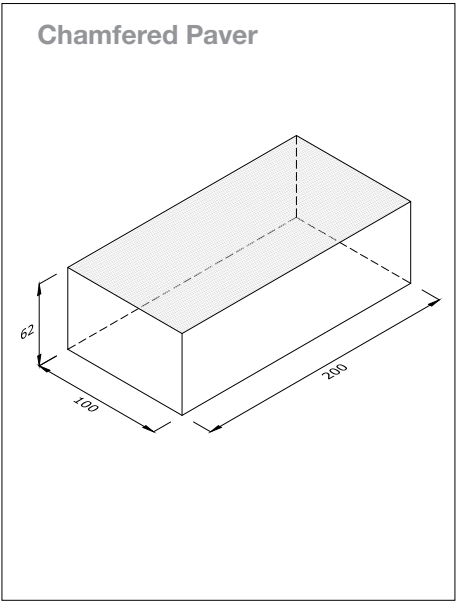
CHAMFERED

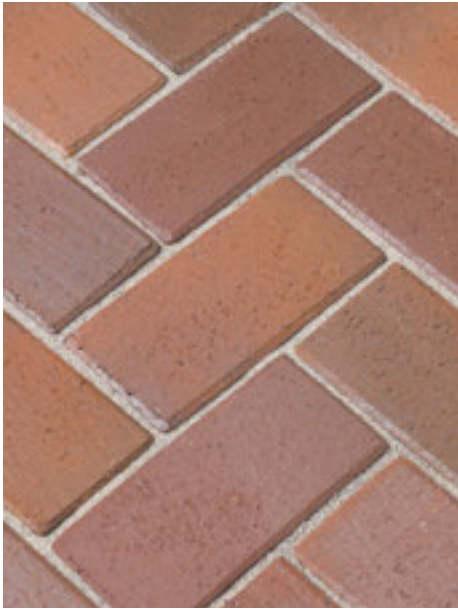
The traditional rectangular clay paver is both practical and versatile. The Penter range of chamfered pavers is renowned for its durability and distinctive colour selection, making it ideal for creating designs which harmonise or accentuate the landscape.

CHAMFERED

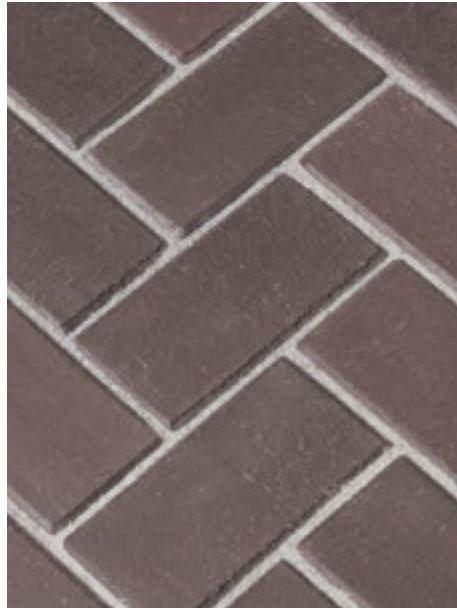


East Kent College - Dortmund Dark Multi, Dragfaced Square Edged Blue

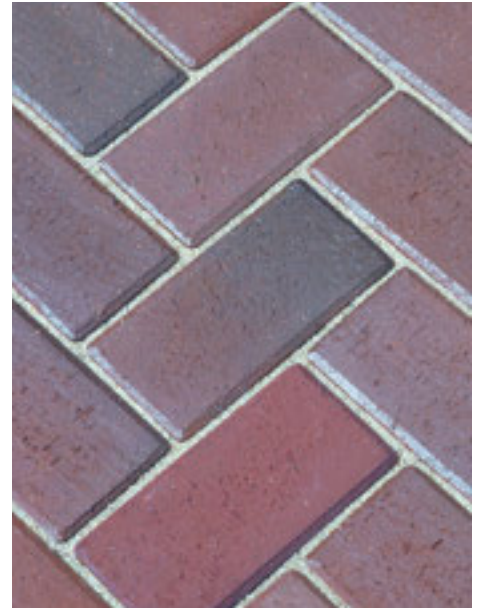




Bochum Orange Multi



Bremen Brown



Dortmund Dark Multi



Essen Red



Market Place, The Netherlands -
Hannover Buff Brindled with channel drainage

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Bochum Orange Multi	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Bremen Brown	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Dortmund Dark Multi	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Essen Red	200 x 100 x 62	R1	T4	U3	A3	FP100	50

CHAMFERED



Hamburg Buff Multi



Hannover Buff Brindled



Munster Red Brindled



Marktpluin, Winschotn, The Netherlands - Munster Red Brindled

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Hamburg Buff Multi	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Hannover Buff Brindled	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Munster Red Brindled	200 x 100 x 62	R1	T4	U3	A3	FP100	50

WATERSTRUCK SLIM PAVE

WATERSTRUCK
SLIM PAVE

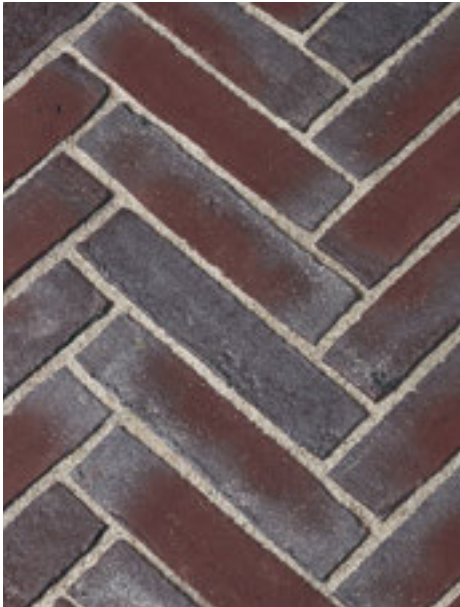
Roath Basin, Cardiff - Koln Red Multi Slim Pave


Wienerberger

WATERSTRUCK SLIM PAVE



Bonn Golden Multi



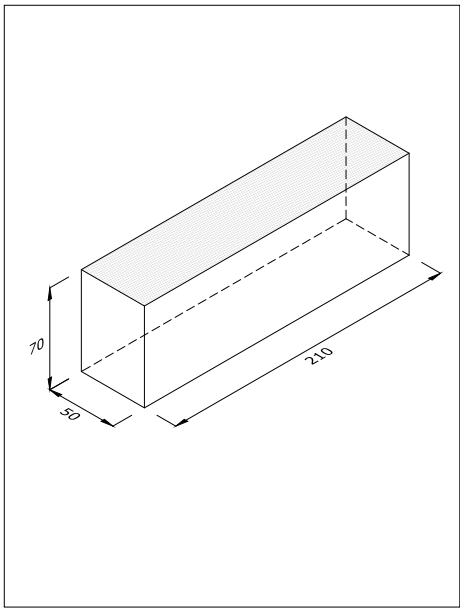
Herne Dark Brindled



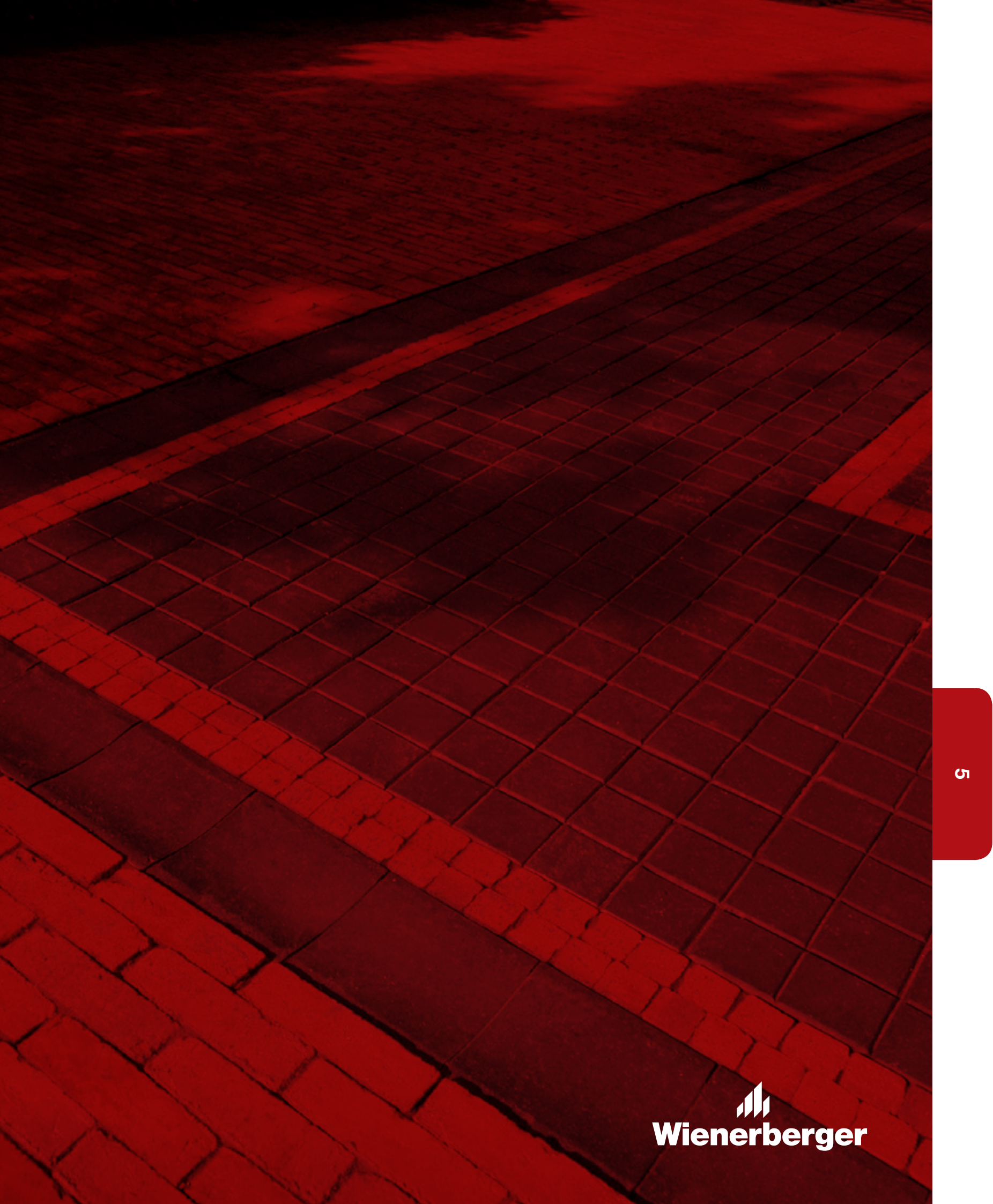
Koln Red Multi



Juist



PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Bonn Golden Multi	210 x 50 x 70	R1	T4	U3	A3	FP100	90
Herne Dark Brindled	210 x 50 x 70	R1	T4	U3	A3	FP100	90
Koln Red Multi	210 x 50 x 70	R1	T4	U3	A3	FP100	90
Juist	210 x 50 x 70	R1	T4	U3	A3	FP100	90



CHAMFERED BAGGERIDGE

BAGGERIDGE

Barton Marina -
Vintage Tumbled Blue Brindled

 Wienerberger

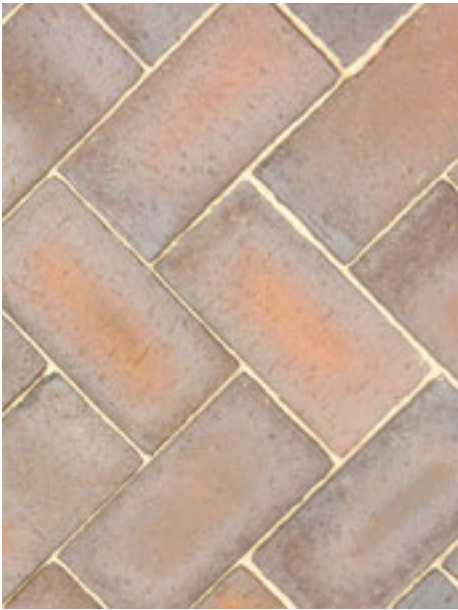
CHAMFERED BAGGERIDGE



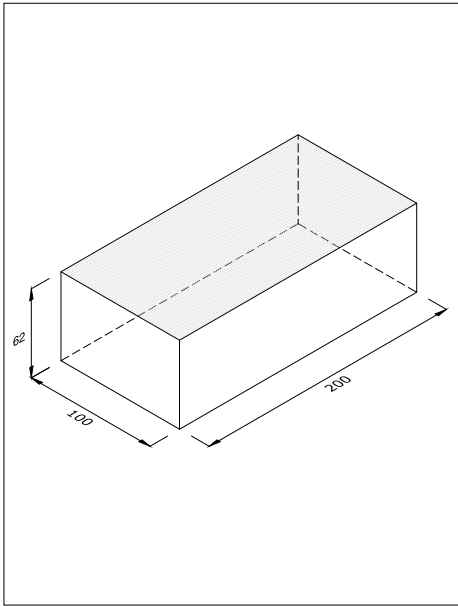
Dragfaced Chamfered Blue



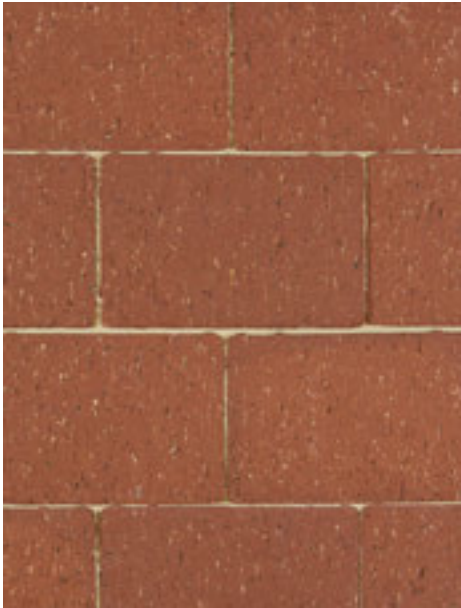
Dragfaced Square Edged Blue



Dragfaced Chamfered Multi Brindled



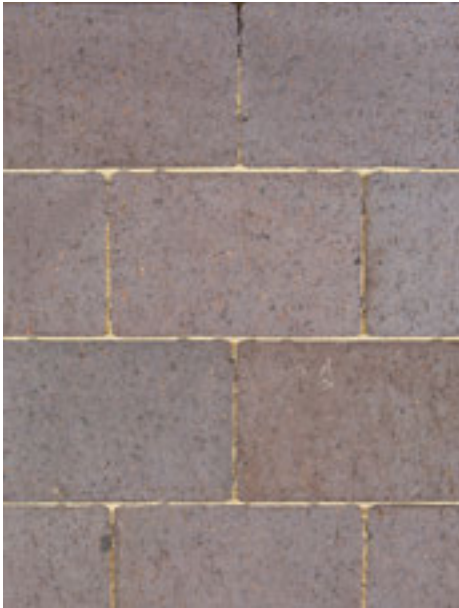
PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Dragfaced Chamfered Blue	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Dragfaced Square Edge Blue	200 x 100 x 62	R1	T4	U3	A3	FP100	50
Dragfaced Chamfered Multi Brindled	200 x 100 x 62	R1	T4	U3	A3	FP100	50



Promenade Square Edged Red



Promenade Square Edged Blue



Promenade Square Edged Telford

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m ²
Promenade Square Edged Red	200 x 133 x 65	R1	T4	U3	A3	FP100	37
Promenade Square Edged Blue	200 x 133 x 65	R1	T4	U3	A3	FP100	37
Promenade Square Edged Telford	200 x 133 x 65	R1	T4	U3	A3	FP100	37



Ideal for creating a more traditional rustic, worn and weathered appearance, Baggeridge cobbles are ideal for both domestic and commercial applications. Reflecting the industrial heritage of the UK, Baggeridge Vintage Tumbled Blue Brindle provides an ideal alternative to the more modern chamfered and square edged pavers when an older, more established and rustic appearance is required.

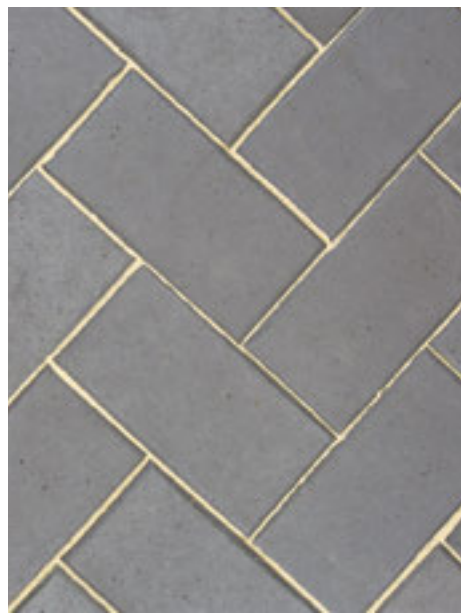
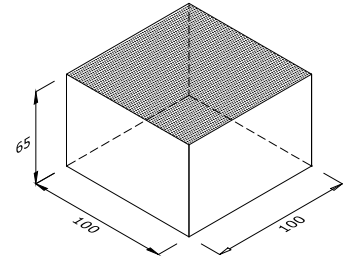


Dragfaced Cobbles* Square Edged Blue

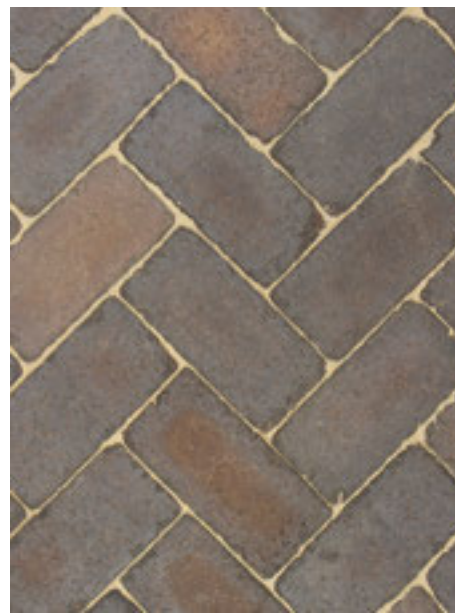


Dragfaced Cobbles* Tumbled Blue

Cobble



Smooth Chamfered Blue



Vintage Tumbled Blue Brindled

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m ²
Dragfaced Cobbles* Square Edged Blue	100 x 100 x 65	R1	T4	U3	A2	FP100	100
Dragfaced Cobbles* Tumbled Blue	100 x 100 x 65	R1	T4	U3	A2	FP100	100
Smooth Chamfered Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	50
Vintage Tumbled Blue Brindled	215 x 102 x 65	R1	T4	U3	A3	FP100	45

*Baggeridge cobbles have been designed to be split on site

SPECIALS PATTERNED

SPECIALS

Available in a wide variety of sizes, finishes and formats, Baggeridge Blue and Red pavers are famed for their durability, hard wearing surface and true blue colour – unique to the clay source used in their manufacture. With proven performance from centuries of use throughout the UK and Europe, they are suitable for the most demanding of applications.

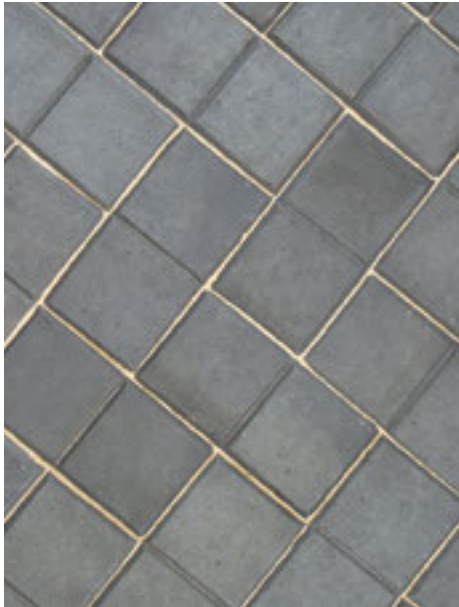
Plaza, Germany -
Baggeridge Smooth Chamfered Blue
in combination with Baggeridge Diamond Pattern Blue



Diamond Pattern Red



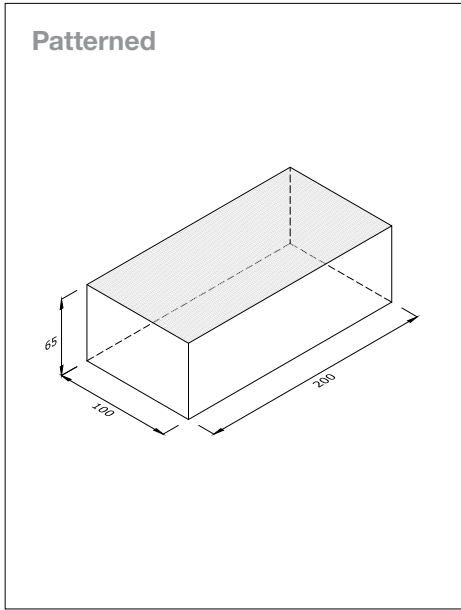
Diamond Pattern Blue



Smooth Stable Blue



Square Pattern Blue



PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Diamond Pattern Red	200 x 100 x 65	R1	T4	U3	A3	FP100	50
Diamond Pattern Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	50
Smooth Stable Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	50
Square Pattern Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	50



Most rainwater falling on natural ground such as gardens and farmland simply passes through the ground into the natural watercourse. However, the continuing expansion of our towns and cities is causing an increasing amount of rainwater to be captured on impermeable surfaces and flow into existing drainage systems.

Surface water run-off from impermeable hard landscaped surfaces will enter already overburdened drainage systems - resulting in flooding to urban areas, rivers and streams. The effects of climate change (increase in rainfall intensity and storm duration) will further highlight the need for SUDS.

By mimicking natural drainage, Wienerberger Aquata™ permeable clay paving is a unique SUDS technology. This innovative paving system has been designed to provide the following attributes:

- Specifically designed for permeable pavement applications with its unique nib pattern.
- Effective source control - removing pollutants through geotextiles and layers of coarse graded aggregate (CGA).
- Fully meets new planning requirements and the Code for Sustainable Homes.
- Offers high quality, strength and durability with appropriate slip/skid abrasion resistance (manufactured in accordance with BS EN 1344).
- Retains the unique style, aesthetics and long-term performance of traditional clay pavers, with three colour options available and shape and spaced design that allows the use of both herringbone and stretcher patterns.
- Suitable for use in both domestic and commercial applications.



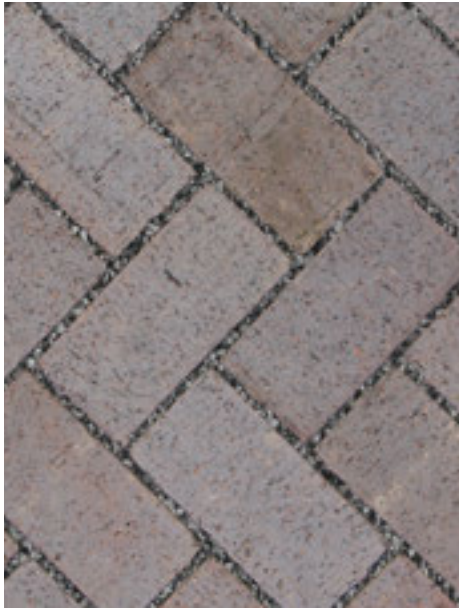
AQUATA™ SUSTAINABLE URBAN DRAINAGE (SUDS)



Aquata™ Square Edged Blue



Aquata™ Square Edged Multi Brindled



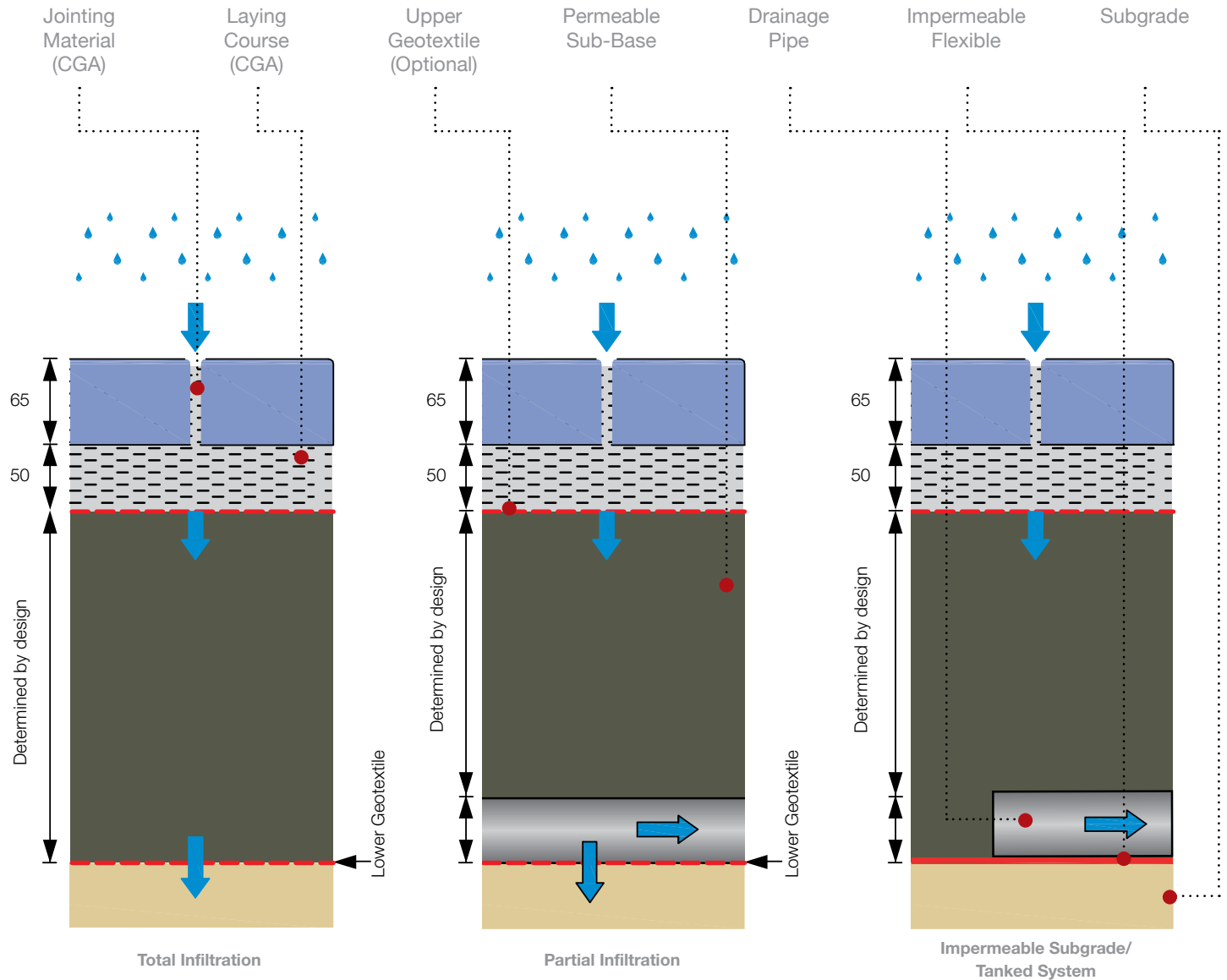
Aquata™ Square Edged Telford

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION RESISTANCE	DURABILITY	QUANTITY PER m²
Aquata™ Square Edged Blue	192 x 92 x 65	R1	T4	U3	A3	FP100	50
Aquata™ Square Edged Multi Brindled	192 x 92 x 65	R1	T4	U3	A3	FP100	50
Aquata™ Square Edged Telford	192 x 92 x 65	R1	T4	U3	A3	FP100	50



AQUATA™ SUSTAINABLE URBAN DRAINAGE (SUDS)

Wienerberger Aquata™ permeable clay paving should be installed in accordance with BS 7533 Part 13 “Guide for the design of permeable pavements constructed with...clay pavers” to achieve three methods of surface water drainage. For further guidance on the choice of systems for a particular site please contact Design Services on 0161 491 8200.



System A

Full infiltration solution - surface water drains naturally into the ground, not into a drainage system.


System B

Partial infiltration system - some of the water flow is controlled through pipework to discharge to water courses at a manageable rate and to avoid flooding.

System C

No infiltration system - tanking below the sub-base layer retains water for controlled discharge into drainage systems or stored for 'grey water' recycling systems, making new developments more sustainable.





Brentford Lock -
Astra WF Tumbled

ACO WATER MANAGEMENT SURFACE WATER CONVEYANCE AND HARD LANDSCAPING SOLUTIONS

ACO: HELPING CREATE INTEGRATED DRAINAGE SOLUTIONS

Since 1946, ACO has been at the forefront of developing new drainage and storm water management solutions to help protect the environments we live and work in. From their origins in line drainage, they have been dedicated to delivering surface water management systems for changing legislative drivers and that focus on higher performance standards.

ACO's range of award winning products and services provide complete & effective management of surface water: from system design through to collection, cleaning, storage & on-site source control allowing the safe release of run-off back to natural watercourses.



aco.co.uk





SURFACE WATER CONVEYANCE

ACO MultiDrain™ MD

ACO's best-selling channel drainage system - ACO MultiDrain™ MD provides an economical solution for the efficient removal of surface water. Manufactured from Vienite, ACO's high strength recycled material, it is available in three widths, 100mm, 150mm and 200mm, and has a variety of depths and slopes.

Our range of award winning products and services provide complete & effective management of surface water: from system design through to collection,

cleaning, storage & on-site source control allowing the safe release of run-off back to natural watercourses.

Grating designs include slotted, mesh, perforated and discreet slot to ensure all applications are catered for.

**For further information,
please contact technical@aco.co.uk**



aco.co.uk

Grating Options



Slotted
Ductile iron



Intercept
Ductile iron



Heelguard
Slotted ductile iron



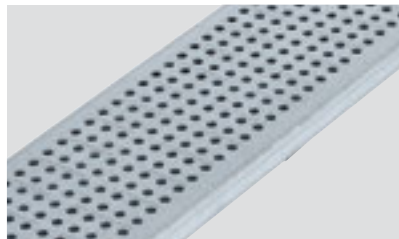
Heelguard
Slotted composite



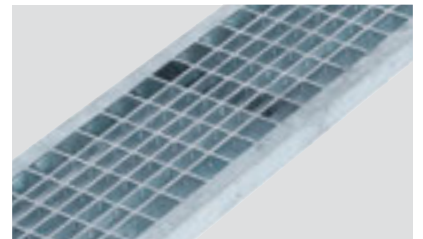
Solid Cover
Ductile iron



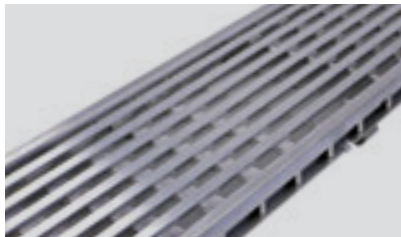
Slotted Steel
Available in galvanised and stainless steel



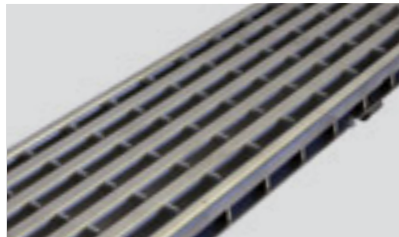
Perforated Steel
Available in galvanised and stainless steel



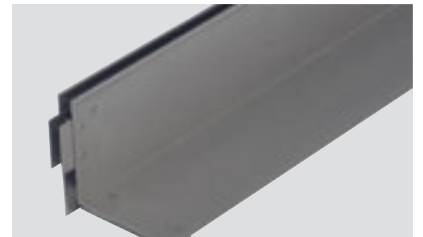
Mesh Steel
Available in galvanised and stainless steel



Intercept Bar
Stainless steel



Intercept profile
Stainless steel



Brickslot
Available in galvanised and stainless steel



Leaf
Ductile iron



Flag
Ductile iron



Mosaic
Ductile iron

Lighting & bespoke slot solutions



Lightpoint
Ductile Iron

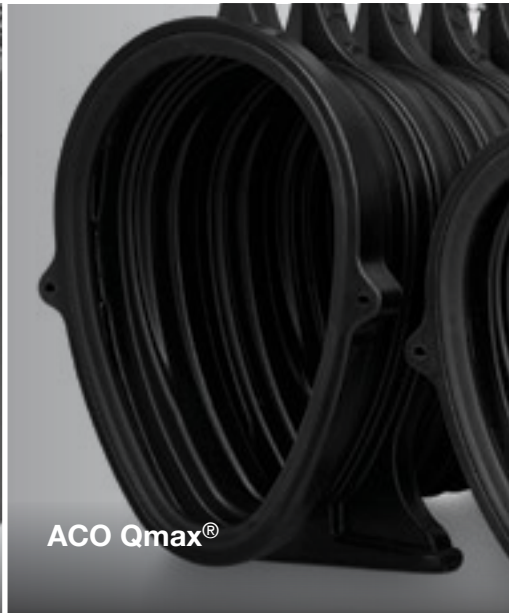


Bespoke Brickslot
Available in galvanised and stainless steel

SURFACE WATER CONVEYANCE



**ACO MultiDrain™
Monoblock PD100D**



ACO Qmax®



ACO KerbDrain®

ACO MultiDrain™ Monoblock PD100D is a simple yet versatile channel drainage system for surface water conveyance which has been specifically developed to meet the demands of contractors and clients alike.

Designed to maintain the long term performance and appearance of the installation, its robust one piece construction removes the risks associated with dislodged or stolen gratings.

ACO MultiDrain™ Monoblock PD100D is suitable for a range of light duty pedestrian, landscaped and medium duty applications including town centres, commercial developments and parking areas for cars and HGV's.

ACO Qmax® has been developed to satisfy the demand for a versatile, high capacity slot drainage system for applications involving small to large catchment areas.

For economical system design and installation, ACO Qmax® can cater for a wide range of applications to any load class.

ACO Qmax® is specifically designed to form an integral part of any modern, sustainable surface water management solution. The system provides all necessary components to deliver conveyance, attenuation and source control for effective SuDS drainage schemes and designs.

ACO KerbDrain® is a combined kerb and drainage system, used to replace the existing kerb line and to collect surface water run off from the car park.

Available in a range of sizes, depths and profiles,

ACO KerbDrain® is suitable for many different highway applications. It is the first combined kerb drainage system to use recycled materials and be independently certified and Kitemarked to BS EN 1433: 2002.

ATTENUATION & FLOW CONTROL



ACO StormBrixx is a unique and patented plastic geocellular stormwater management system.

Designed for surface water infiltration and storage, its versatility allows it to be used in applications across all construction environments as a standalone solution or as part of a sustainable drainage system (SuDS).

ACO StormBrixx addresses the fundamental requirement of simple access and maintenance for adopting drainage authorities. The open cell structure permits completely free access for CCTV and jetting equipment which allows the whole system, including all the extremities, to be inspected and maintained from just a few access points.

**For further information,
please contact suds@aco.co.uk**



aco.co.uk



ATTENUATION & FLOW CONTROL



ACO SuDS Swale Inlet

The ACO SuDS Swale Inlet unit provides an aesthetically pleasing solution when linking proprietary conveyance drainage systems to vegetated infiltration features such as swales, basins, ponds and water courses.

The surface finish and the flared outlet of the unit encourages water dispersion and reduces excessive flow velocities - helping to protect the surrounding environment from erosion and managing flow rates.

The ACO SuDS Swale Inlet can be integrated into any SuDS drainage scheme where there is a requirement to manage water on or near the surface, helping to manage surface water at its source.



ACO Q-Brake

ACO Q-Brake Vortex Flow controls are designed to regulate storm water flow before it discharges into a watercourse or sewer network.

They can be used in conjunction with retention and attenuation systems, such as ACO StormBrixx, as an integrated sustainable drainage system (SuDS).

ACO - HELPING CREATE INTEGRATED DRAINAGE

Design Services - 01462 816666 | technical@aco.co.uk

Surface water management system design can often be a complex task. Success in combining products and processes requires a thorough understanding of how these different elements work together.

The ACO Design Services Team is able to work closely with you through the entire design process to ensure accurate and cost effective product selection is made.

ACO Hydraulic Design Software

Register online for our free, secure online design software:

- All design are securely stored and easily accessed online
- Data always up-to-date
- Proven calculation methodology - more accurate and efficient designs
- Flexible catchment design
- Integrated rainfall data
- Automated product optimisation
- PDF summary documents



Register Now - It's Free
www.acodesign.co.uk

ACO BIM Library – www.aco.co.uk/BIM

The first surface water management manufacturer to launch a BIM offering targeting civils and infrastructure projects, ACO's BIM files will help contractors specify and optimise drainage systems in line with the overall benefits of BIM-enabled working, including faster project delivery, reduced costs, reduced waste and greater project predictability.

ACO Water Management:

Civils + Infrastructure Division of ACO Technologies plc

ACO Business Park, Hitchin Road, Shefford, Bedfordshire SG17 5TE

Tel: 01462 816666 | Fax: 01462 815895
e-mail Sales: customersupport@aco.co.uk
e-mail Technical: technical@aco.co.uk
website: www.aco.co.uk

The ACO Group: A strong family you can depend on.



Step Marker Paver

ADD TO THE AESTHETIC APPEAL OF A PAVED SURFACE

Wienerberger supplies a full range of paving accessories to enhance a commercial design scheme both aesthetically and functionally. Products are manufactured to the same high standards as Wienerberger's core paving products, consistent in strength, durability and appearance.

Availability

Wienerberger holds stock of a wide variety of paver accessories, but we advise that paver accessories may be on extended delivery during periods of high demand. It is advisable to order any paver accessories as early as possible to ensure they can be supplied to meet site installation and construction programmes.

Wide Range

A variety of contrasting and complementary colours are available in a range that includes: Deterrent Pavers, Tactile Pavers, Infill Units, Channel Units, Step Units and units for various kerb types. Wienerberger also provides Ramp Systems, ideal for traffic calming.

Purpose Made Specials

With early involvement in design and specification, Wienerberger can supply bespoke products for any purpose. Please contact the Design Services Department for advice, on 0161 491 8200.

SPECIALS



D.E.T.R. Blister Paver
T.1



Corduroy Paver
T.3



Directional Guidance Paver
T.6



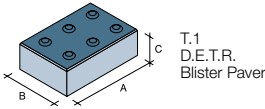
Blister Platform Edge Paver
T.10



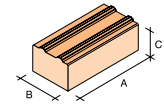
Lozenge Platform Edge Paver
T.11

Available in red, blue and buff

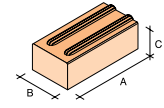
TACTILE PAVERS - DIMENSIONS (mm)						
Code	Type	A	B	C	D	R
T.1	D.E.T.R. Blister Paver	200	133	65	-	-
T.3	Corduroy Paver	200	100	65	-	-
T.4	Corduroy Paver - Stop End	200	100	65	-	-
T.5	Corduroy Paver - Half Stop End	100	100	65	-	-
T.6	Directional Guidance Paver	200	160	65	-	-
T.7	Directional Guidance Paver - Stop End	200	160	65	-	-
T.8	Directional Guidance Paver - Intermediate	200	160	65	-	-
T.9	Directional Guidance Paver - Half Stop End	100	160	65	-	-
T.10	Blister Platform Edge Paver	200	133	65	-	-
T.11	Lozenge Platform Edge Paver	200	133	65	-	-
T.12	Lozenge Platform Edge Paver - Half	100	133	65	-	-
T.13	Lozenge Platform Edge Paver - Intermediate	200	133	65	-	-



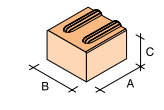
T.1
D.E.T.R.
Blister Paver



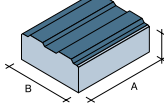
T.3
Corduroy
Paver



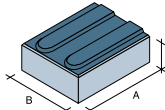
T.4
Corduroy
Paver -
Stop End



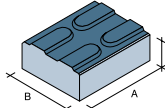
T.5
Corduroy
Paver -
Half Stop
End



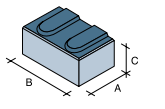
T.6
Directional
Guidance
Paver



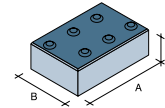
T.7
Directional
Guidance
Paver -
Stop End



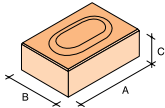
T.8
Directional
Guidance
Paver -
Intermediate



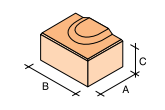
T.9
Directional
Guidance
Paver -
Half Stop
End



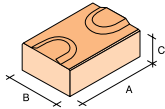
T.10
Blister
Platform
Edge Paver



T.11
Lozenge
Platform
Edge Paver



T.12
Lozenge
Platform
Edge Paver
- Half



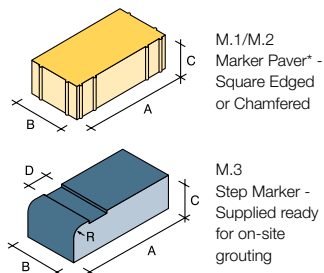
T.13
Lozenge
Platform
Edge Paver -
Intermediate

Marker pavers are standard paving units that have been developed by Wienerberger for use in a wide range of applications, including: indicating traffic restrictions, marking car bays, and where the use of naturally contrasting paver colours is not permitted.

These units are factory coated in yellow or white and treated with an anti-skid dressing. To support the visually impaired, specially designed Step Marker Pavers provide a means of highlighting step nosings and are available in red or blue to complement paving and supplied for on-site application of infill grout by the contractor.



**Yellow Marker Paver - Chamfered
M.2 (Also available in white)**



* The life of the coating will depend upon conditions of use

Typical application:

- Highways
- Car Parks

White Marker Blocks:

Suitable for:

- Trafficked Highways
- Definition or Parking Bays
- Locations where high visibility indicators are required



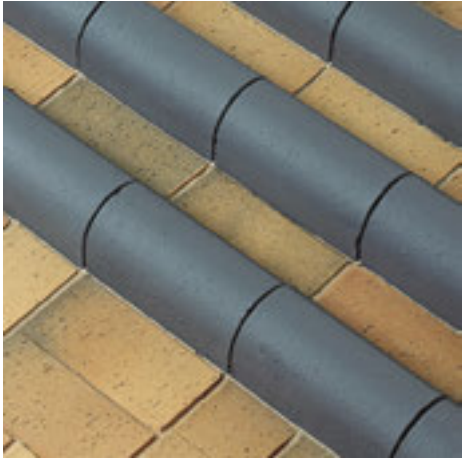
**Step Marker Paver
M.3 (Also available in red)**

MARKER PAVERS - DIMENSIONS (mm)						
Code	Type	A	B	C	D	R
M.1	Marker Paver* - Square-edged	200	100	65	-	-
M.2	Marker Paver* - Chamfered	200	100	65	-	-
M.3	Step Marker Paver	215	102	65	55	25

DETERRENT PAVERS

Offering various levels of deterrence to restrict or prevent use by pedestrians, bicycles and supermarket trolleys or to discourage vehicle over-run, Deterrent Pavers are generally laid with alternating rows, or larger areas of standard pavers. They can also contribute to the overall aesthetic impact of a scheme through the contrast of light and shade afforded by their profiles, coupled with the use of colour.

Note: In the interests of user safety, careful consideration should be given to the design and location of deterrent features.



Slip-top Deterrent Paver
D.1

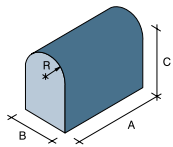


Sharp-top Deterrent Paver
D.2

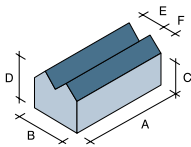


Stretcher Ridged Deterrent Paver and Header Ridged Deterrent Paver D.4
& D.3

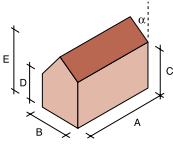
Available in red, blue and buff



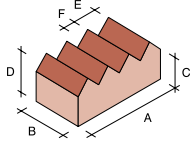
D.1
Slip-top
Deterrent Paver



D.3
Header Ridged
Deterrent Paver



D.2
Sharp-top
Deterrent Paver



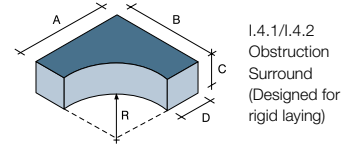
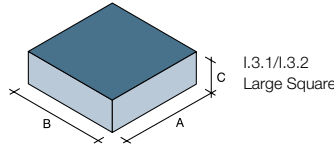
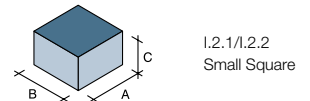
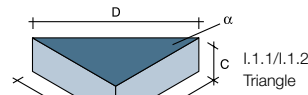
D.4
Stretcher Ridged
Deterrent Paver

DETERRENT PAVERS - DIMENSIONS (mm)									
Code	Type	A	B	C	D	E	F	R	α
D.1	Slip-top Deterrent Paver	200	102	150	-	-	-	51	-
D.2	Sharp-top Deterrent Paver	200	102	114	83	150	-	-	45°
D.3	Header Ridged Deterrent Paver	200	100	65	25	50	25	-	-
D.4	Stretcher Ridged Deterrent Paver	200	100	65	25	50	25	-	-

INFILL, CHANNEL, STEP AND RAMP PAVERS

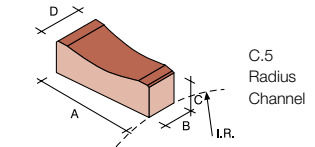
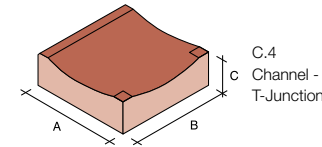
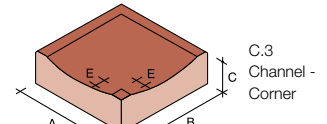
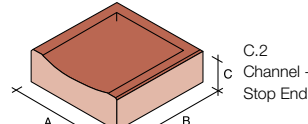
Infill Units

Offering a neat finish whilst minimising on-site cutting of small pieces, Infill Units are positioned adjacent to edge restraints or obstructions in a flexibly constructed pavement. They are normally available in blues and reds, with smooth or dragfaced surface textures to complement our full range of pavers.



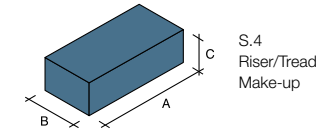
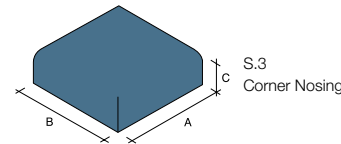
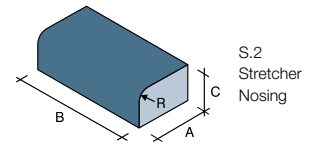
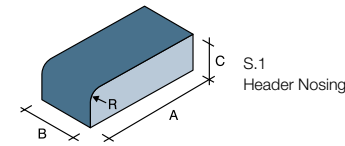
Channel Units

Typically used to direct surface water run-off to suitable outlets, these Channel Units feature a dished profile, which is compatible with popular dished



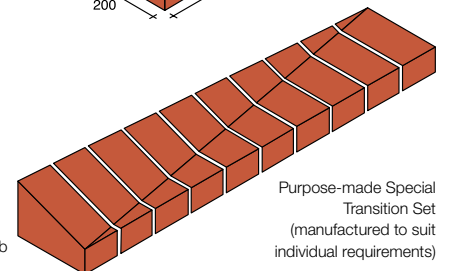
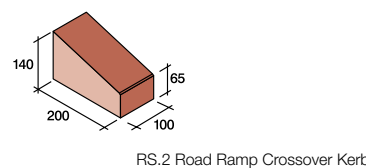
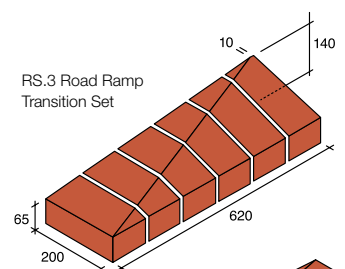
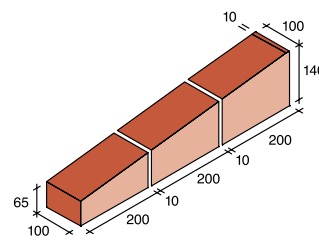
Step Units

These Nosing Units feature rounded leading edges to minimise chipping in normal use, whilst Riser/Tread make-up units are faced on two headers, one stretcher and one bed face. As a means of highlighting step nosings to assist the visually impaired, Tactile Pavers for use adjacent to flights of steps and Step Markers, which provide a means of highlighting step nosings, are also available.



Ramp Systems

Ideal for use in traffic calming applications these Ramp Systems are designed for rigid construction and are available in standard profiles as shown. We are also pleased to assist with purpose-designed ramps for specific projects.



Available in red, blue and buff



INFILL, CHANNEL, STEP AND RAMP PAVERS

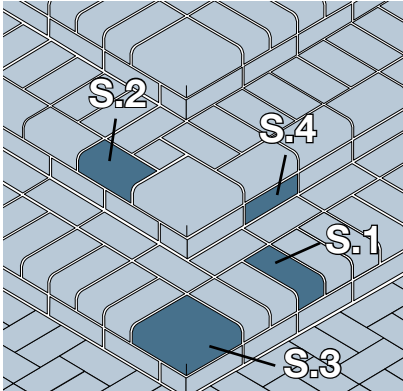
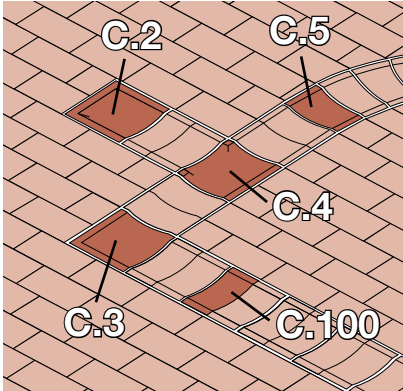
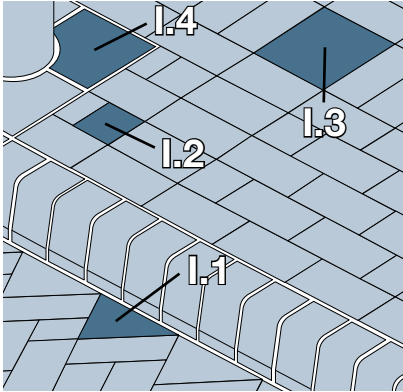
INFILL UNITS - DIMENSIONS (mm)										
Code	Type	Edge Detail	A	B	C	D	E	D	R	α
I.1.1	Triangle	Square-edged	187	187	65	264	-	-	-	45°
I.1.2	Triangle	Chamfered	187	187	65	264	-	-	-	45°
I.2.1	Small Square	Square-edged	96	96	65	-	-	-	-	-
I.2.2	Small Square	Chamfered	96	96	65	-	-	-	-	-
I.3.1	Large Square	Square-edged	196	196	65	-	-	-	-	-
I.3.2	Large Square	Chamfered	196	196	65	-	-	-	-	-
I.4.1	Obstruction Surround	Square-edged	194	194	65	-	-	varies	to order	-
I.4.2	Obstruction Surround	Chamfered	194	194	65	-	-	varies	to order	-

The radius on Obstruction Surrounds should not exceed 140mm and should be specified 10mm larger than the obstruction radius. Non-circular Obstruction Surrounds are available to order. Infill units are available either square-edged or chamfered.

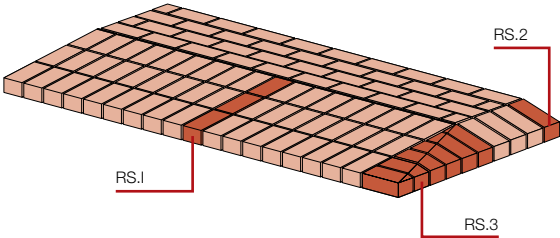
CHANNEL UNITS - DIMENSIONS (mm)									
Code	Type	A	B	C	D	E	I.R. Internal Radius	Approx No. per ¼ Circle	
C.100	Channel	200	100	65	12	20	-	-	
C.2	Channel Stop End	200	200	65	-	-	-	-	
C.3	Channel Corner	200	200	65	-	-	-	-	
C.4	Channel T-Junction	200	200	65	-	-	-	-	
C.5.1	Radius Channel	200	61	65	90	-	500	11	
C.5.2	Radius Channel	200	74	65	90	-	1000	19	
C.5.3	Radius Channel	200	78	65	90	-	1500	27	
C.5.4	Radius Channel	200	81	65	90	-	2000	35	
C.5.5	Radius Channel	200	82	65	90	-	2500	43	

INFILL UNITS - DIMENSIONS (mm)					
Code	Type	A	B	C	R
S.1	Header Nosing	215	102	65	25
S.2	Stretcher Nosing	xx	xx	65	25
S.3.1	Corner Nosing	215	102	65	25
S.3.2	Corner Nosing	215	215	65	25
S.4	Riser/Tread Make-up	215	102	65	-

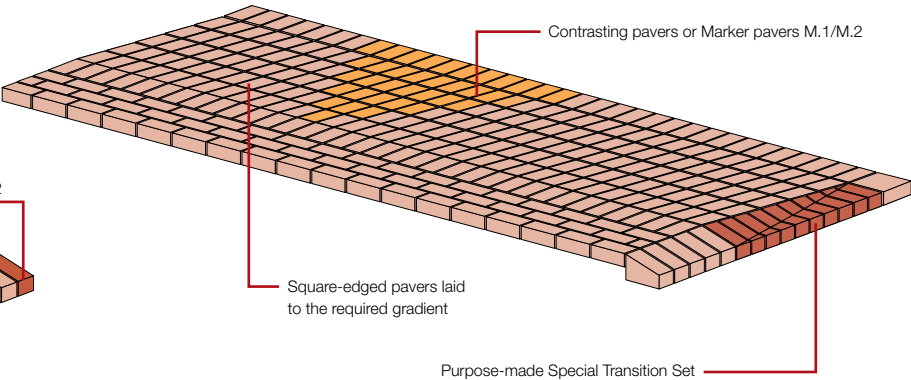
S.3.1 is available left or right handed, S.3.2 is not handed, S.4 is faced on two headers, 1 stretcher and 1 bed.



Standard

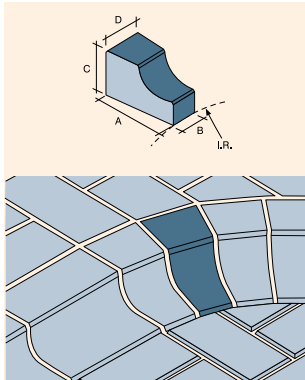


Purpose Designed

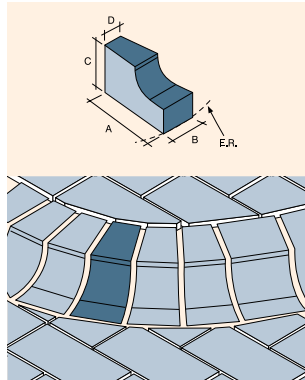


Kerb Units

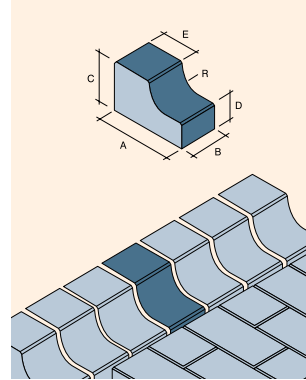
Adding visual definition to an area, kerbs in a paving scheme perform a number of functions including creating edge restraint details, delineating areas for vehicular and pedestrian use, and deterring over-riding by vehicles. Allowing kerbs to be constructed to suit the demands of anticipated levels and types of traffic, while maintaining the aesthetic coherence of a scheme, Kerb Units are offered in a choice of profile and depth of upstand, with units to achieve crossovers, corners and radii.



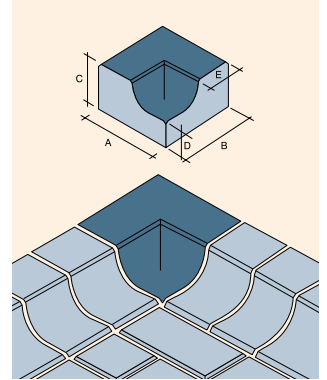
K.11
Internal Radius Boot Kerb



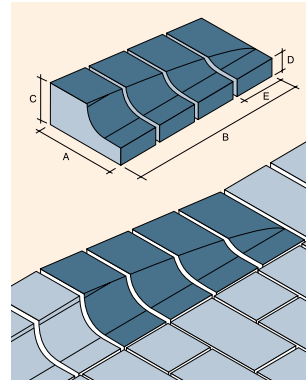
K.12
External Radius Boot Kerb



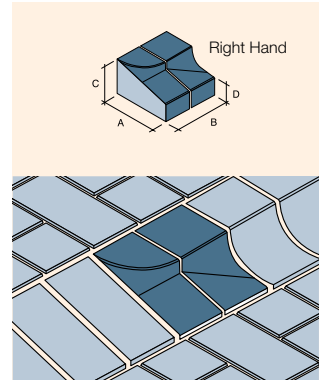
K.800
Boot Kerb



K.9
Boot Kerb Internal Corner



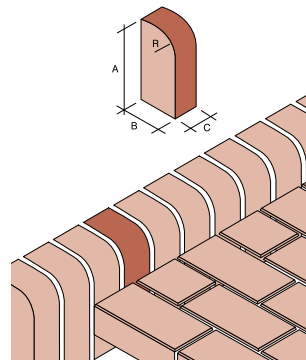
K.13 (left & right hand)
Boot Drop Kerb Set



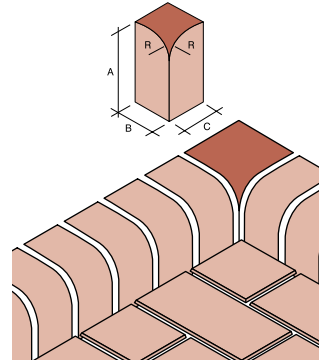
K.15 (left & right hand)
Boot to Crossover Transition

Boot, Cant & Bullnose Kerbs

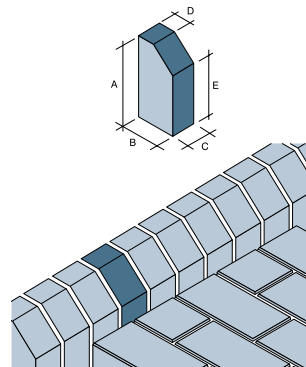
The Boot Kerb should be laid in a vertical orientation for heavily trafficked areas, although it can also be laid horizontally for use in lightly trafficked areas. The units may also act as a transition between paving and brickwork, with brickwork being built directly on them. Cant and Bullnose Kerbs are only suitable for very lightly trafficked areas. Purpose made returns and drop sets are available to order.



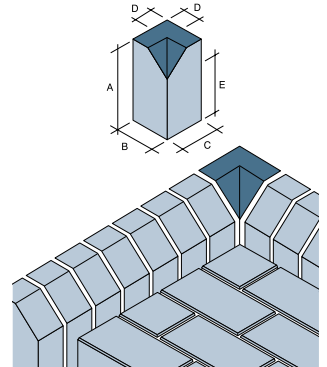
BN.1
Single Bullnose



BN.8
Single Bullnose Internal Return On End

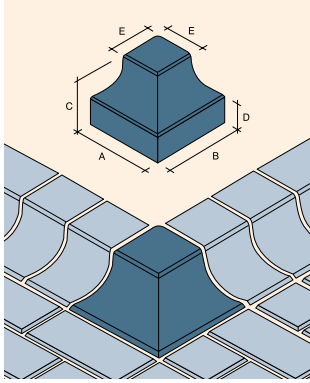


AN.5
Single Cant

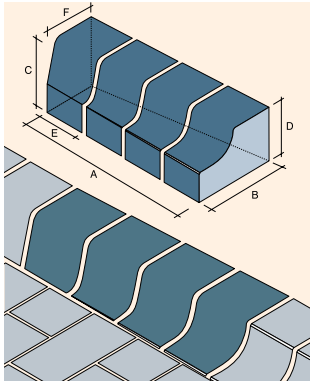


SD.2
Single Cant Internal Return On End

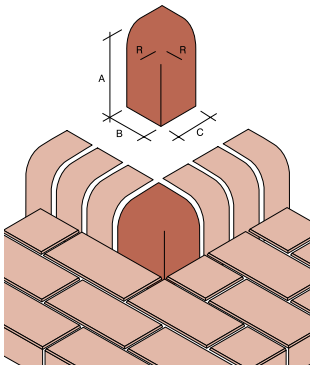
KERBS



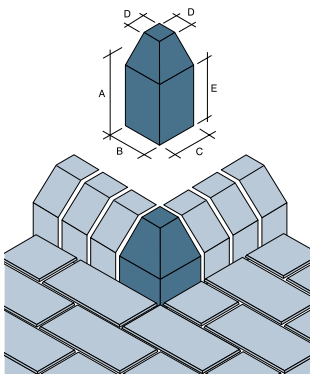
K.10
Boot Kerb External Corner



K.16 (left & right hand)
Boot to Half Batter Kerb Transition



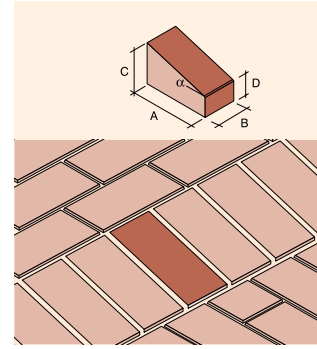
K.22
Single Bullnose External Return On End



SD.3
Single Cant External Return On End

Crossover Kerbs

Typically used to facilitate access for vehicular or other wheeled traffic where the general run of kerbing is an upstand kerb, the Crossover Kerb may also be used as a kerb in its own right. Alternative angles of slope are available to order.



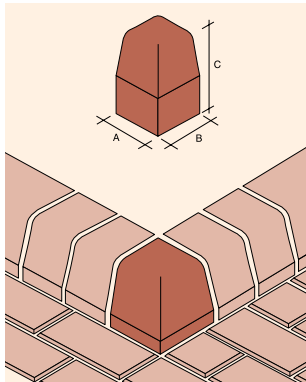
K.1400
Crossover Kerb

BOOT, CANT, BULLNOSE KERBS & CROSSOVER KERBS - DIMENSIONS (mm)

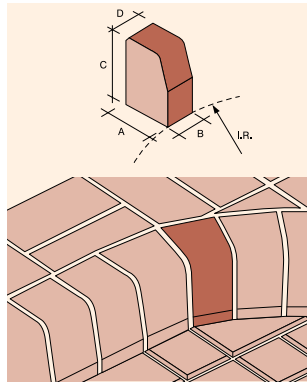
Code	Type	A	B	C	D	E	F	R	Radius I.R./E.R.	Approx No. per 1/4 Circle	α
K.800	Boot Kerb	200	100	125	65	103	-	50	-	-	-
K.9	Boot Kerb Internal Corner	200	200	125	65	103	-	-	-	-	-
K.10	Boot Kerb External Corner	200	200	125	65	103	-	-	-	-	-
K.11.1	Boot Kerb Internal Radius	200	61	125	90	-	-	-	500	11	-
K.11.2	Boot Kerb Internal Radius	200	74	125	90	-	-	-	1000	19	-
K.11.3	Boot Kerb Internal Radius	200	78	125	90	-	-	-	1500	27	-
K.11.4	Boot Kerb Internal Radius	200	81	125	90	-	-	-	2000	35	-
K.11.5	Boot Kerb Internal Radius	200	83	125	90	-	-	-	2500	43	-
K.12.1	Boot Kerb External Radius	200	90	125	49	-	-	-	500	8	-
K.12.2	Boot Kerb External Radius	200	90	125	70	-	-	-	1000	16	-
K.12.3	Boot Kerb External Radius	200	90	125	77	-	-	-	1500	24	-
K.12.4	Boot Kerb External Radius	200	90	125	80	-	-	-	2000	32	-
K.12.5	Boot Kerb External Radius	200	90	125	82	-	-	-	2500	39	-
K.13	Boot Drop Kerb Set	200	430	125	65	100	-	-	-	-	-
K.1400	Crossover Kerb	200	100	125	65	-	-	-	-	-	17°
K.15	Boot to Crossover Transition	200	200	125	65	-	-	-	-	-	-
K.16	Boot to Half Batter Kerb Transition	430	200	170	125	100	125	-	-	-	-
AN.5.1	Single Cant	215	102	65	46	159	-	-	-	-	-
AN.5.2	Single Cant	215	102	65	60	173	-	-	-	-	-
SD.2.1	Single Cant internal return on end	215	102	102	46	159	-	-	-	-	-
SD.2.2	Single Cant internal return on end	215	102	102	60	173	-	-	-	-	-
SD.3.1	Single Cant external return on end	215	102	102	46	159	-	-	-	-	-
SD.3.2	Single Cant external return on end	215	102	102	60	173	-	-	-	-	-
BN.1.1	Single Bullnose	215	102	65	-	-	-	25	-	-	-
BN.1.2	Single Bullnose	215	102	65	-	-	-	51	-	-	-
BN.8.1	Single Bullnose Internal Return On End	215	102	102	-	-	-	25	-	-	-
BN.8.2	Single Bullnose Internal Return On End	215	102	102	-	-	-	51	-	-	-
K.22.1	Single Bullnose External Return On End	215	102	102	-	-	-	25	-	-	-
K.22.2	Single Bullnose External Return On End	215	102	102	-	-	-	51	-	-	-
K.23.10	Dual Purpose Kerb	100	150	65	35	95	-	-	25	-	45
K.23.20	Dual Purpose Kerb	200	150	65	35	95	-	-	25	-	45
K.24	Dual Purpose Kerb	130	130	100	58	88	-	-	25	-	45

Half Batter Kerbs

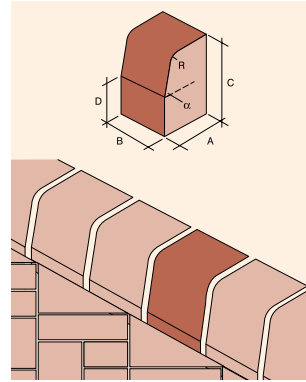
The Half Batter Kerb is intended for vertical installation but may also be laid horizontally depending on the depth of upstand and visual appearance required. In such cases, purpose-made returns and drop sets are available to order.



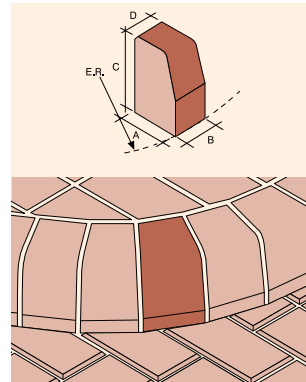
K.3
Half Batter Kerb External Corner



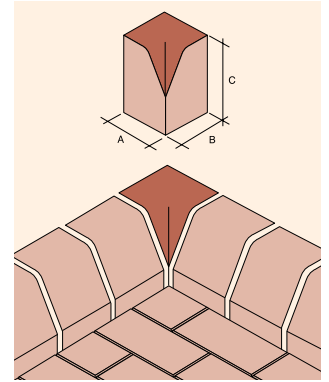
K.4
Internal Radius Half Batter Kerb



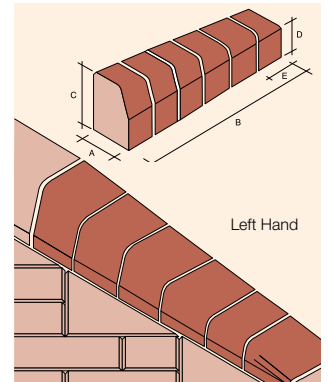
K.100
Half Batter Kerb



K.5
External Radius Half Batter Kerb



K.2
Half Batter Kerb Internal Corner

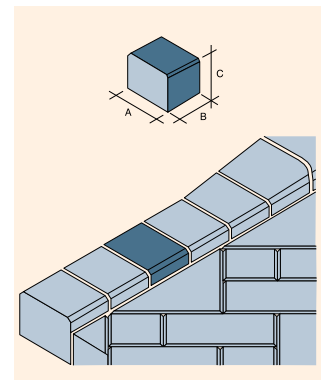


K.6
Half Batter Drop Kerb Set (left & right hand)

HALF BATTER AND FLUSH KERBS - DIMENSIONS (MM)										
Code	Type	A	B	C	D	E	R	Radius I.R./E.R.	Approx No. per ¼ Circle	α
K.100	Half Batter Kerb	125	100	200	100	-	18	-	-	76°
K.2	Half Batter Kerb Internal Corner	125	125	200	-	-	-	-	-	-
K.3	Half Batter Kerb External Corner	125	125	200	-	-	-	-	-	-
K.4.1	Half Batter Kerb Internal Radius	125	68	200	88	-	-	500	10	-
K.4.2	Half Batter Kerb Internal Radius	125	77	200	88	-	-	1000	18	-
K.4.3	Half Batter Kerb Internal Radius	125	74	200	81	-	-	1500	28	-
K.4.4	Half Batter Kerb Internal Radius	125	75	200	80	-	-	2000	37	-
K.4.5	Half Batter Kerb Internal Radius	125	75	200	80	-	-	2500	46	-
K.5.1	Half Batter Kerb External Radius	125	77	200	55	-	-	500	9	-
K.5.2	Half Batter Kerb External Radius	125	82	200	71	-	-	1000	17	-
K.5.3	Half Batter Kerb External Radius	125	74	200	67	-	-	1500	28	-
K.5.4	Half Batter Kerb External Radius	125	75	200	70	-	-	2000	37	-
K.5.5	Half Batter Kerb External Radius	125	75	200	71	-	-	2500	46	-
K.6	Half Batter Drop Kerb Set	125	650	200	100	100	-	-	-	-
K.7	Flush Kerb	125	100	100	-	-	-	-	-	17°

Flush Kerbs

Typically used at a drop kerb position in conjunction with a Half Batter Drop Kerb Set, the Flush Kerb may also be used as a kerb or edging in its own right.



K.7
Flush Kerb

JOINTING SOLUTION FOR RIGID (BOUND)
CONSTRUCTION METHODS

WIENERBERGER WORKING WITH INSTARMAC

Wienerberger recommend the use of Instarmac a specialist manufacturer of cement and bitumen based products. To provide the best possible solution for rigid (bound) construction methods.

Piccadilly Place, Manchester -
Padova (Eindhoven Mixed Red)

JOINTING SOLUTION FOR RIGID (BOUND) CONSTRUCTION METHODS

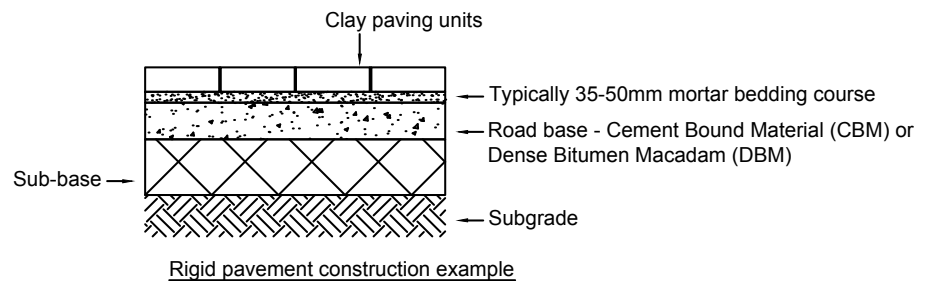


Rigid (Bound) Construction

Mainly used with natural products, this method uses a Cement Bound Material (CBM) or Dense Bitumen Macadam (DBM) road-base, a mortar bed and mortar jointing system.

Rigid pavements can withstand very heavy vehicle and foot traffic, this comes with additional costs, but if constructed in accordance with BS 7533 can offer a 40 year construction life. Movement joints will need careful consideration. For further guidance on movement joints for clay paving please contact Design Services on 0161 491 8200.

Rigid Construction



ULTRASCAPE FLOWPOINT, FLOWPOINT ECO & FLOWPOINT SMOOTH

Ultrascape Flowpoint grout not only meets, but exceeds all of the requirements of the latest British Standard. It is also available in ECO, offering all the benefits of Flowpoint, but containing 20% recycled material, significantly reducing the consumption of virgin aggregates.





The third variation of this award-winning grout, Smooth, is ideally suited to smooth paving stones and slabs providing a seamless surface to your construction.

For over two decades, Flowpoint has been exceeding the demands of clients. It has been used in a variety of project environments including public realm, landscaping and domestic. Ultrascape Flowpoint is now synonymous with fast application, cost-effective and robust jointing.

Paving grouted with Flowpoint can be opened to pedestrian traffic in just 1 hour and vehicular traffic in just 4 hours (tested at 20°C).

The product is available in three alternatives: regular, ECO and smooth. Overall all three offer the same great features; however you can choose to benefit from recycled material content or a smooth surface finish.

Flowpoint ECO is ideal for schemes looking to achieve an 'excellent' CEEQUAL award, or where a BREEAM assessment is to be conducted on your building.

All three are sold individually as fully pre-mixed dry-packs, which only require the addition of water on-site. Once the desired consistency has been achieved, the product is poured over the paving, filling joints with ease, and then the surplus is simply washed off. The nature of this method causes many to worry about staining; however this flowable grout leaves a perfect stain free finish.



Flowpoint Natural Grey



Flowpoint ECO Charcoal



Flowpoint ECO Natural Grey



Flowpoint Smooth Natural Grey



Flowpoint Charcoal



Flowpoint Smooth Charcoal

Flowpoint grout is ideal for urban regeneration schemes, allowing large areas to be pointed with ease, and simply washed clean.

www.ultrascape.co.uk

For more information on rigid construction and Instarmac products call 01827 872 244



Step Marker Paver



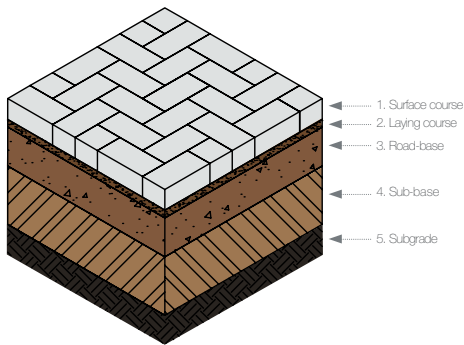


Mechanical lay and installation, The Netherlands

Technical Characteristics and Properties to BS EN 1344 : 2002. Individual product information available in Paver Index.

Laying

The sub-grade and the sub-base. The sub-grade should be prepared to the engineer's required specification and the sub-base should normally be a well compacted Type 1 to the designed thickness taking into account traffic loadings and suitability of the subgrade.



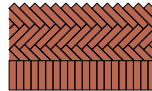
Edge restraint

It is imperative that solid edge restraints are provided along the perimeter of all paved areas to restrict lateral movement (creep) resulting from the action of deceleration and turning forces. They should be adequate to prevent the escape of the bedding course material beneath the paver surface.

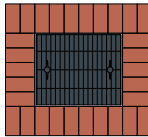
Cutting clay paving

Clay paving should be cut using a multi bladed mechanical paver splitter or bench mounted water cooled power saw to achieve the best finish. Clay paving should not be cut to less than a quarter of the original size along the length of the paver and never cut across the width – when required complimentary fittings and inboard cutting should be used.

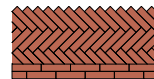
Successful detailing



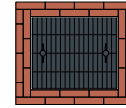
Laying pattern at edge
Soldier course



Detailing around manhole
Soldier course



Laying pattern at edge
Double stretcher course



Detailing around manhole
Double stretcher course

Drainage

Sufficient cross-fall should be provided to prevent standing water on all block paved surfaces.

Unpacking the pavers

In order to obtain the correct blend of colour, mix from a minimum of 3 packs. The paver packs require unpacking vertically - not horizontally, layer-by-layer. This will equally distribute minor size variations of the pavers over the entire pavement, and will help to maintain the correct bond pattern. Damaged or broken pavers must not be used although they can be used as cut pieces for infilling.

Bedding course and paving

Bedding course material should be washed naturally occurring silica sand and should be selected in accordance with the recommendations given in BS7533 : Part 3 : 2005 – Code of Practice for Laying Precast Concrete Paving Blocks and Clay Pavers for Flexible Pavements.

Bedding sand is both the strength and weakness of a flexible clay pavement as it provides the interlock that ensures that pavers can accommodate extreme loading.

Bedding course material to be 25-40mm compacted thickness over the specified thickness of sub base. The use of a geotextile below bedding course to prevent migration of sand may be advisable if the sub-base is open textured.

Pavers should be laid in the designated bond pattern working from an edge restraint or existing laying face edge. Mechanical force should not be used to bring pavers into intimate contact and should be laid such that a joint width of 2 to 5mm forms between each paver with a target joint width of 3mm thus ensuring there is no point contact between units. The laying of any clay paver, with or without nibs, will require the opening or closing up of joints to maintain good lines throughout the work due to the tolerances of a natural clay product.

Compaction of pavers

When a sufficient area of pavers has been laid - and before starting the vibration - a fine kiln dried silica jointing sand must be brushed into the joints. The pavers are compacted onto the sand bed using a vibrating plate compactor with a rubber sole-plate to any avoid damage to the surface. After compaction, any damaged pavers must be immediately removed and replaced. Any unevenness or differences in height must be re-adjusted.

Joint-filling

After compaction, a further application of fine kiln dried silica sand is brushed into the joints until all joints are entirely full. Failure to ensure joints are full before opening up the area to traffic may cause movement and loosening of the paved surface. Upon satisfactory completion traffic may be permitted to use the pavement. Do not use high powered suction cleaners on newly laid areas of flexible paving.

Maintenance

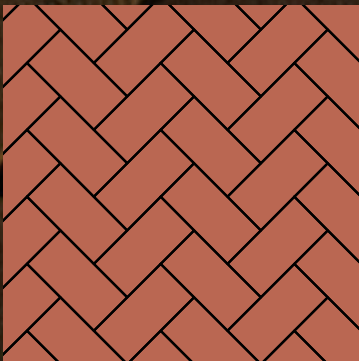
Wienerberger clay pavers are resistant to chemicals and cleaning fluids. Pavements using clay pavers can be cleaned using biodegradable detergents. Mechanical or high water pressure cleansing operations will require re-sanding of the joints.

For further information please contact the Wienerberger design services team.

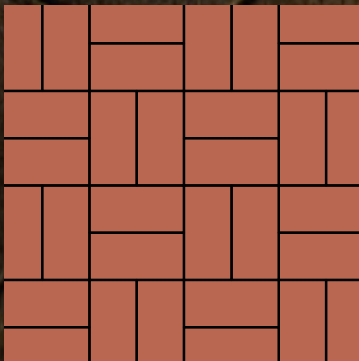
LAYING PATTERNS & TECHNICAL GUIDANCE

The design laying pattern is fundamental to the process to the successful laying of clay paving. Due to the natural characteristics of clay paving, manufacturing tolerances may not permit the achievement of perfectly straight lines. Joints can be re-aligned through the use of string lines and infill units can be incorporated as the pattern develops.

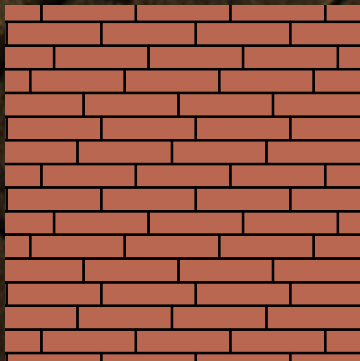
Suggested patterns -



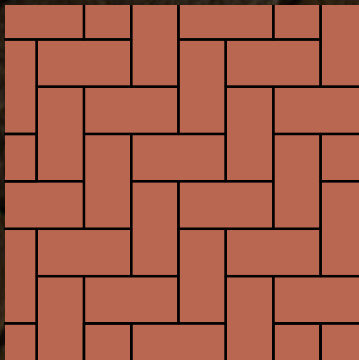
Herringbone 45 degree – Commercial



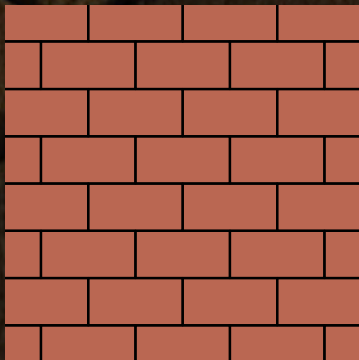
Basket weave (2 face and 3 face) – pedestrian



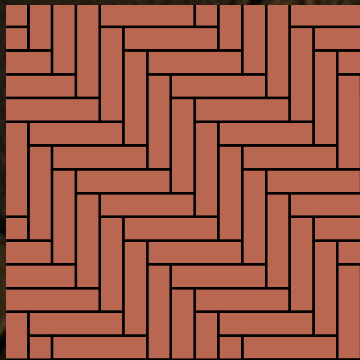
Staggered bond – pedestrian



Herringbone 90 degree – Commercial



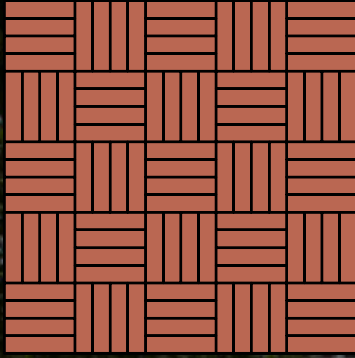
Running bond course – Pedestrian



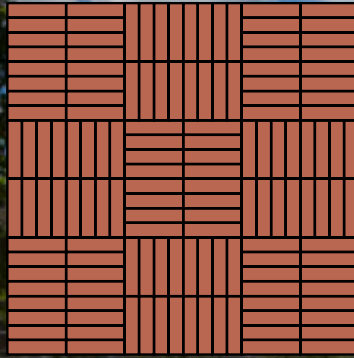
Chevron

BASIC INSTALLATION & DESIGN GUIDANCE

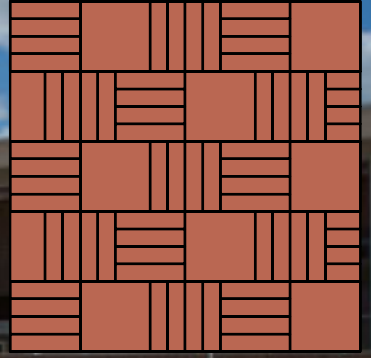
PATTERN OPTIONS



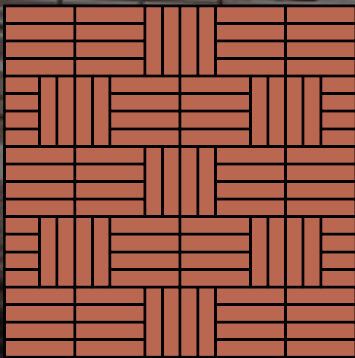
Dutch Pavers (WF)



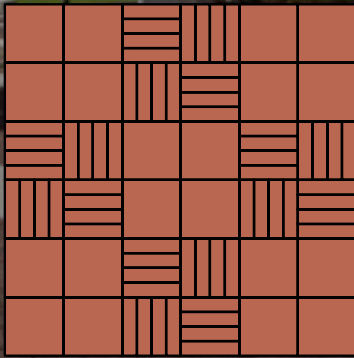
Dutch Pavers (WF)



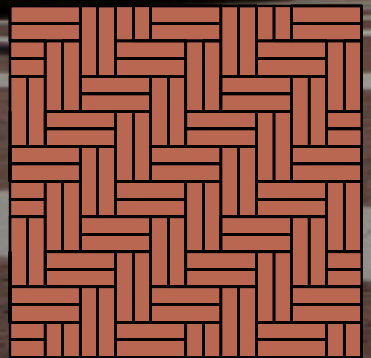
Dutch pavers (WF) and Tegel (TL)



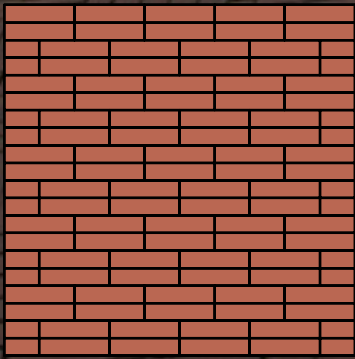
Dutch pavers (WF)



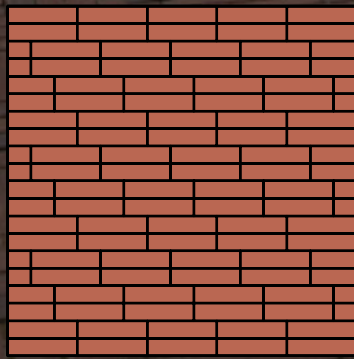
Dutch Pavers (WF) and Tegel (TF)



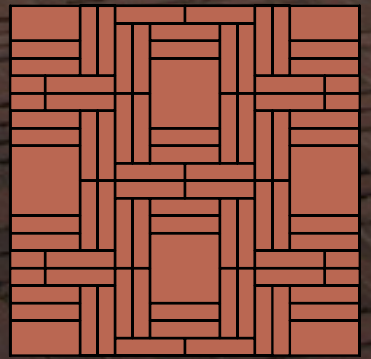
Dutch (WF)



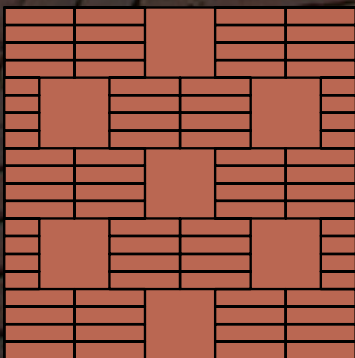
All



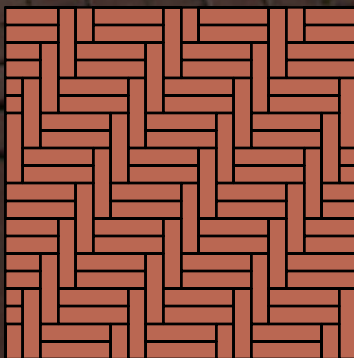
All



Dutch Pavers (WF) with Tegel (TF)

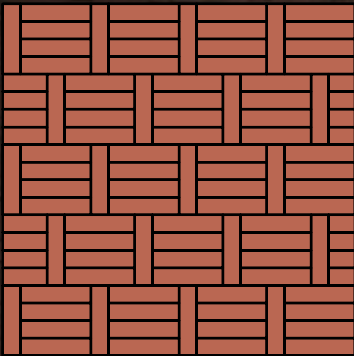


Dutch pavers (WF) and Tegel (TF)

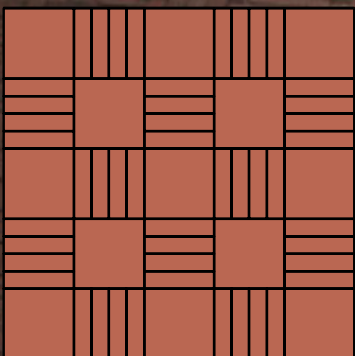


Dutch pavers (WF)

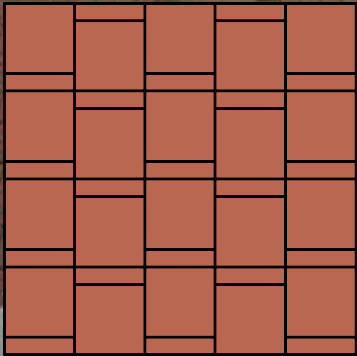
BASIC INSTALLATION & DESIGN GUIDANCE
PATTERN OPTIONS



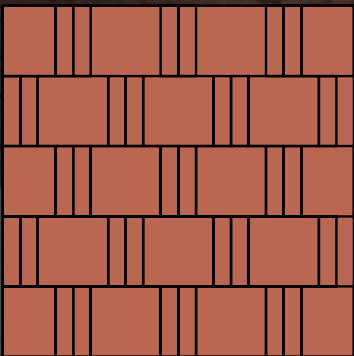
Dutch Pavers (WF)



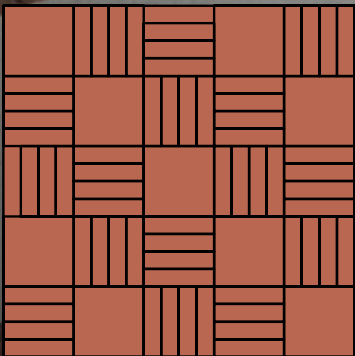
Dutch pavers (WF) and Tegel (TF)



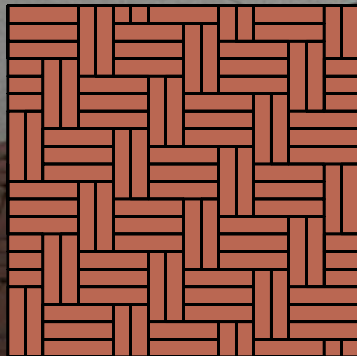
Dutch pavers (WF) and Tegel (TF)



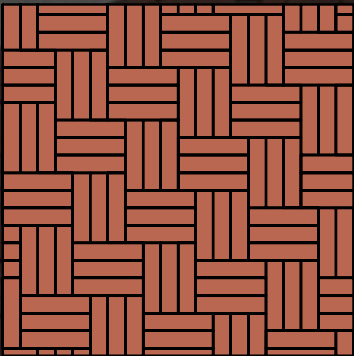
Dutch pavers (WF) and Tegel (TF)



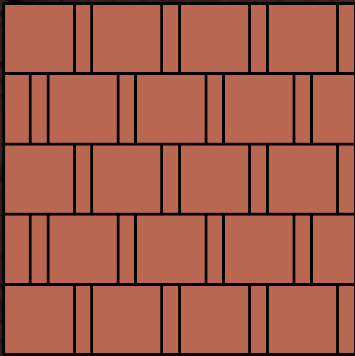
Dutch pavers (WF) and Tegel (TF)



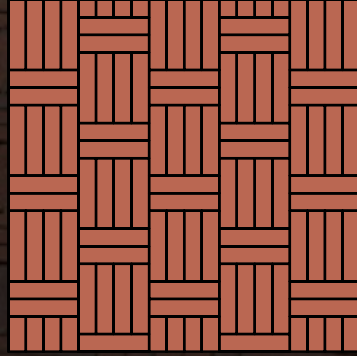
Dutch pavers (WF)



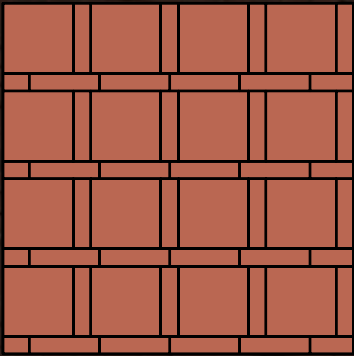
Dutch pavers (WF)



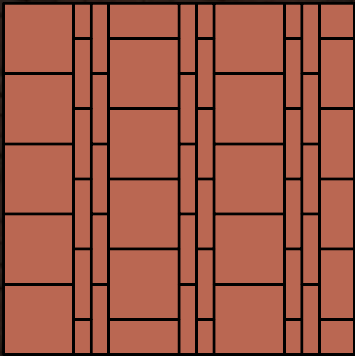
Dutch pavers (WF) and Tegel (TF)



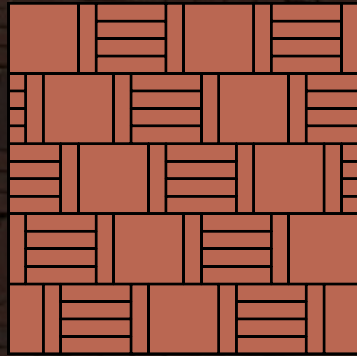
Dutch pavers (WF)



Dutch pavers (WF) and Tegel (TF)



Dutch pavers (WF) and Tegel (TF)



Dutch pavers (WF) and Tegel (TF)



PAVER INDEX

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION	DURABILITY	PACK SIZE	TYPICAL PACK WEIGHT (kg)	QTY PER m ²	AVAILABLE TUMBLED*	PAGE	SECTION
Aquata™ Square Edged Blue	192 x 92 x 65	R1	T4	U3	A3	FP100	404	1110	50		9	5
Aquata™ Square Edged Multi Brindled	192 x 92 x 65	R1	T4	U3	A3	FP100	404	1110	50		9	5
Aquata™ Square Edged Telford	192 x 92 x 65	R1	T4	U3	A3	FP100	404	1110	50		9	5
Alfaton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1250	100		22	3
Astra Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	200	1092	25		25	3
Atlas UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1392	100		22	3
Auraton DF	200 x 64 x 85	R1	T4	U3	A2	FP100	756	1715	75	✓	6	3
Auraton WF	200 x 48 x 85	R1	T4	U3	A2	FP100	1040	1693	100	✓	6	3
Basalt DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	19	3
Basalt WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	19	3
Bochum Orange Multi	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		3	4
Bonn Golden Multi	210 x 50 x 70	R1	T4	U3	A3	FP100	864	1296	90		6	4
Bremen Brown	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		3	4
Bruno DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1517	100	✓	8	3
Bruno WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1443	100	✓	8	3
Bruno Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	200	1092	25		25	3
Bruno Waterstruck (Delft Dark Blend) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	8	3
Bruno Waterstruck (Delft Dark Blend) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1443	100	✓	8	3
Caron Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	200	1218	25		25	3
Caron UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1466	100		22	3
Diamond Pattern Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	400	1165	50		7	5
Diamond Pattern Red	200 x 100 x 65	R1	T4	U3	A3	FP100	400	1165	50		7	5
Dione UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1392	100		22	3
Dortmund Dark Multi	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		3	4
Dragfaced Chamfered Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	396	1144	50		2	5
Dragfaced Chamfered Multi Brindle	200 x 100 x 65	R1	T4	U3	A3	FP100	396	1144	50		2	5
Dragfaced Cobbles Square Edged Blue	100 x 100 x 65	R1	T4	U3	A2	FP100	768	1200	100		2	5
Dragfaced Cobbles Tumbled Blue	100 x 100 x 65	R1	T4	U3	A2	FP100	768	1200	100		5	5
Dragfaced Square Edged Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	396	1144	50		5	5
Essen Red	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		3	4
Euroton Novoton DF	200 x 64 x 85	R1	T4	U3	A2	FP100	592	1453	75	✓	12	3
Euroton Novoton WF	200 x 48 x 85	R1	T4	U3	A2	FP100	752	1421	75	✓	12	3
Euroton Varia DF	200 x 64 x 85	R1	T4	U3	A2	FP100	592	1500	75		6	3
Euroton Varia WF	200 x 48 x 85	R1	T4	U3	A2	FP100	752	1525	100	✓	6	3
Gala Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	17	3
Gala Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	17	3
Hamburg Buff Multi	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		4	4
Hannover Buff Brindled	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		4	4
Herne Dark Brindled	210 x 50 x 70	R1	T4	U3	A3	FP100	864	1296	90		6	4
Incana Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	6	4
Incana Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	17	3
Juist	210 x 50 x 70	R1	T4	U3	A3	FP100	864	1296	90		16	4
Koln Red Multi	210 x 50 x 70	R1	T4	U3	A3	FP100	864	1296	90		6	3
Lotis UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1314	100		22	3
Mastiek DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1476	75	✓	16	3
Mastiek LF	240 x 80 x 65	R1	T4	U3	A3	FP100	660	1663	55	✓	16	3
Mastiek Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	200	1218	25		25	3
Mastiek Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1476	75	✓	15	3
Mastiek Waterstruck WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1443	100	✓	15	3
Mastiek WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	16	3
Munster Red Brindled	200 x 100 x 62	R1	T4	U3	A3	FP100	560	1568	50		4	4
Nero (Maastricht Dark Grey) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1660	75	✓	20	3
Nero (Maastricht Dark Grey) WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	20	3
Nero Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	20	3
Nero Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	20	3
Novoton DF	200 x 64 x 85	R1	T4	U3	A2	FP100	756	1715	75	✓	12	3
Novoton WF	200 x 48 x 85	R1	T4	U3	A2	FP100	1040	1693	100	✓	12	3
Oliva DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1421	75	✓	15	3
Oliva Waterstruck DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	15	3

PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	UNPOLISHED SLIP/SKID RESISTANCE	ABRASION	DURABILITY	PACK SIZE	TYPICAL PACK WEIGHT (kg)	QTY PER m ²	AVAILABLE TUMBLED*	PAGE	SECTION
Oliva Waterstruck WF	200 x 48 x 85	R1	T4	U3	A2	FP100	832	1700	100	✓	15	3
Oliva WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1364	100	✓	15	3
Omber DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1660	75	✓	19	3
Omber WF	200 x 48 x 85	R1	T4	U3	A3	FP100	864	1690	100	✓	19	3
Orion Tegel TF	200 x 200 x 65	R1	T4	U3	A2	FP100	200	1092	25		25	3
Padova (Eindhoven Mixed Red) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1421	75	✓	13	3
Padova (Eindhoven Mixed Red) LF	240 x 80 x 65	R1	T4	U3	A2	FP100	660	1663	70	✓	13	3
Padova (Eindhoven Mixed Red) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1443	100	✓	13	3
Paviona (Arnhem Red) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1660	75	✓	9	3
Paviona (Arnhem Red) LF	240 x 80 x 65	R1	T4	U3	A2	FP100	660	1663	70	✓	8	3
Paviona (Arnhem Red) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1443	100	✓	8	3
Porto DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1421	75	✓	17	3
Porto WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1364	100	✓	17	3
Promenade Square Edged Blue	200 x 133 x 65	R1	T4	U3	A3	FP100	288	1165	37		3	5
Promenade Square Edged Red	200 x 133 x 65	R1	T4	U3	A3	FP100	288	1165	37		3	5
Promenade Square Edged Telford	200 x 133 x 65	R1	T4	U3	A3	FP100	288	1165	37		3	5
Qualiton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1250	100		22	3
Rosa Waterstruck DF	200 x 64 x 85	R1	T4	U3	A3	FP100	640	1476	100	✓	12	3
Rosa Waterstruck WF	200 x 48 x 85	R1	T4	U3	A3	FP100	880	1443	100	✓	12	3
Ruston UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1250	100		22	3
Siena - (Hague Cream) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	628	1660	75	✓	4	3
Siena - (Hague Cream) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	864	1690	100	✓	4	3
Smooth Chamfered Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	400	1165	50		5	5
Smooth Stable Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	400	1165	50		7	5
Square Pattern Blue	200 x 100 x 65	R1	T4	U3	A3	FP100	400	1165	50		7	5
Supraton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1250	100		22	3
Triton UWF Tumbled	200 x 50 x 65	R1	T4	U3	A2	FP100	960	1392	100		22	3
Vintage Tumbled Blue Brindled	215 x 102 x 65	R1	T4	U3	A3	FP100	400	1311	45		5	5
Zonnebloem Waterstruck (Tilberg Blended Ochre) DF	200 x 64 x 85	R1	T4	U3	A2	FP100	640	1476	75	✓	6	3
Zonnebloem Waterstruck (Tilberg Blended Ochre) WF	200 x 48 x 85	R1	T4	U3	A2	FP100	880	1443	100	✓	6	3

A	B	C	D	E	F	G	H	I	J	K	L	M
PRODUCT NAME	WORK SIZE	DIMENSIONAL DEVIATION (RANGE)	MEAN TRANSVERSE BREAKING LOAD	SRV	ABRASION	DURABILITY	PACK SIZE	TYPICAL PACK WEIGHT (kg)	QUANTITY PER m ²	AVAILABLE TUMBLED*	PAGE	SECTION

Guide to technical data – the details

A. Product Name

B. Work Size

Provides the work dimensions of the paver (excluding nibs). The principal requirement of BS EN 1344:2002 is that the work dimensions of length, width and depth are to be stated.

C. Dimensional Deviation

The difference between the largest and the smallest measurement of any given measured dimension to be found within a sample of 10 pavers.

D. Mean Transverse Breaking Load

Measures the load a paver can withstand.

E. SRV

F. Abrasion Resistance

Indicates durability of the surface when in contact with vehicular and pedestrian traffic.

G. Durability

A measure of the freeze/ thaw resistance of clay pavers.

H. Pack Size

Number of pavers packaged together to form a pack..

I. Typical Pack Weight

Total weight of a pack of pavers allowing for nominal moisture content.

J. Quantity per m²

K.

L. Page

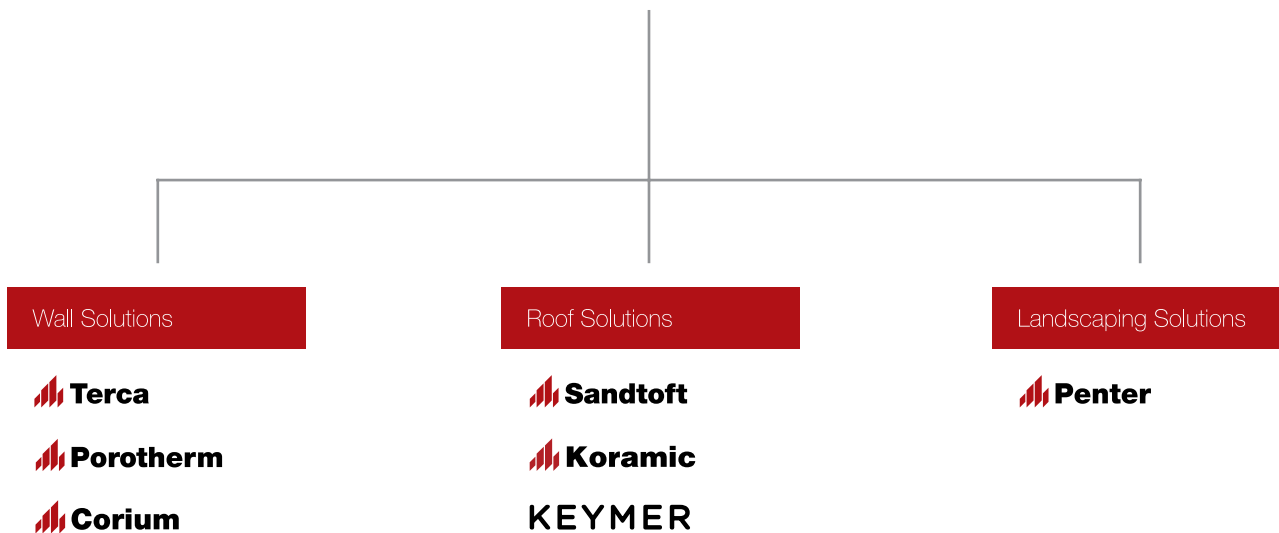
M. Section

All pavers in this brochure are also suitable for domestic application.

For more detailed or specific technical performance please contact our Head Office on 0161 491 8200

* Pack sizes vary when ordering tumbled Pavers. Please call 0845 303 2524 for full information.

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